LIBRARY
RECEIVED
OCT 22 1925
U. S. Department of Agriculture

The Citrus Industry

Issued Monthly

Representative of every Interest
Representing no special Interest

Vol. 6. No. 10 TAMPA, FLA., OCTOBER, 1925 15 Cts. A Copy

UNIFORMLY

THE BEST

A Moderate-Priced Citrus Juice Extractor for Every Requirement---

The American Fruit Growers Inc., after a thorough investigation of citrus fruit juice extractors now on the market, has made arrangements with the H. C. Fry Glass Company, Rochester, Pa. to make a simple, sanitary, effective, and moderate-priced extractor, with BLUE GOOSE advertising on it.

The American Fruit Growers Inc. is not entering into direct sale of the extractors but will give every assistance to the Fry Glass Company to effect a wide distribution. They can be secured from the Fry Glass Company, Rochester, Pa. at $4.00 a dozen and will retail at from 50c to 75c each. The extractors are made in one piece of Fry heat-resisting glass of beautiful pearl coloring. They are constructed to extract juices from fruit as small as a lime or as large as a grapefruit.

Every one of our sales representatives and leading retailers throughout the country will have one of these extractors. Besides this thousands of letters will be mailed to the wholesalers and retailers.

These extractors will materially increase the use of BLUE GOOSE citrus fruit juices as beverages and, carrying the name BLUE GOOSE, will directly connect with our advertising.

American Fruit Growers Inc.

Orlando, Florida

DEPENDABLE AFG QUALITY

PENINSULAR
INSECTICIDES AND FUNGICIDES
INSECTICIDES
MADE BY PENINSULAR CHEMICAL CO., ORLANDO, FLA.

Growers of Keen Judgment Demand the Best

Citrus growers who make a business of operating groves at a profit carefully select insecticides which they know will produce the most results per dollar invested.

They make it their business to try all products with obvious merits. This enables them to determine the most economical insecticides to use.

Such Growers Have Their Groves Sprayed With

EMULSO
THE BETTER SPRAY

Kills White Flies And Scale Insects

UNIFORM - SAFE - CONVENIENT - ECONOMICAL

Among the users of EMULSO you know — all have tried most other sprays — are Adams Groves, Lake Alfred; Citrus Groves Development Co., Babson Park; Flowerree Groves, Fort Myers; F. L. Cody, Babson Park; The Fruitlands Co., Lake Alfred; H. E. Fowler, Winter Garden; Gentile Brothers Co., (all of their groves,) Glen St. Mary Nurseries, Winter Haven; Highland Park Development, Lake Wales; Grove Development Co., Sebring; Lakeland Highlands Cooperative Association, Lakeland; W. E. Lee(all of his groves,) F. M. Leonard & Company, (all of their groves,) Mountain Lakes Cooperation, Lake Wales; Mammoth Groves, Lake Wales; Pittsburg-Alturas Company, Alturas; Pittsburg-Florida Fruit Growers Assn., Avon Park; Scenic Highlands Development Co., Avon Park; Standard Growers Exchange, (all of their groves,) Temple Terraces, Tampa, etc. etc. etc.

These growers have used EMULSO exclusively (with the exception of testing other sprays) since they first tried it and are using it now. Some of them have used over 500 barrels—most of them a hundred or more, and remember, a barrel of EMULSO makes from 2500 to 3300 gallons of spray.

WOULD THEY CONTINUE TO USE EMULSO IF THERE WERE SOMETHING BETTER OR MORE ECONOMICAL?

EMULSO MAY BE OBTAINED FROM AUTHORIZED DEALERS EVERYWHERE IN THE EAST.

If you need assistance in you pest control problems, either truck or citrus, write 'phone or wire

"THE COMPANY THAT SELLS RESULTS"

Peninsular Chemical Co INC.
CROP ORLANDO - FLORIDA PROTECTION

There is every assurance that the Citrus Industry of this state is on a firm substantial footing. The grower received fair prices for his product last winter and may expect to do so in the years to come

The forward looking planter will therefore lay his plans to round out his acreage and right now reserve the choicest trees to insure his getting exactly what he wants.

"Glen Trees Grow"

Glen Saint Mary Nurseries Company

Offices:

Tampa, 8th Floor Citrus Exchange Bldg.	Winter Haven, First State Bank Bldg.	Orlando, Orlando Bank & Trust Co. Bldg.

Over forty-two years of Satisfied Customers has made this the largest Citrus Nursery in Florida.

ALL SOLD OUT!

DAVIS ISLANDS
TAMPA · IN THE BAY

$18,138,000

IN SALES IN 31 HOURS

$8,250,000

OVER-SUBSCRIBED

More and greater record-breaking history for Davis Islands—Florida's most spectacular land development. A complete sell-out of the entire project in less than one year from the date of its first sale, which auspiciously started with a crowd of buyers which waited in line 43 hours for first choice.

A few days ago, after the property had been off the market for the entire summer, during which millions in building and development had been poured into it, we announced the opening of reservations in the last units of Davis Islands. The response was electric—sensational–for in 31 hours $18,138,000 in sales were made with an oversubscription of $8,250,000.

In our Tampa office, when this astounding news was made public, spirited bidding began for property just bought and profits of thousands of dollars were offered to many a fortunate buyer.

D. P. DAVIS PROPERTIES

TAMPA, FLORIDA

The Citrus Industry
THE ONLY PUBLICATION IN THE WORLD DEVOTED EXCLUSIVELY TO CITRUS FRUITS
Issued Monthly
Representative of every interest—
Representing no special interest

Vol. 6 TAMPA, FLORIDA, OCTOBER, 1925 No. 10

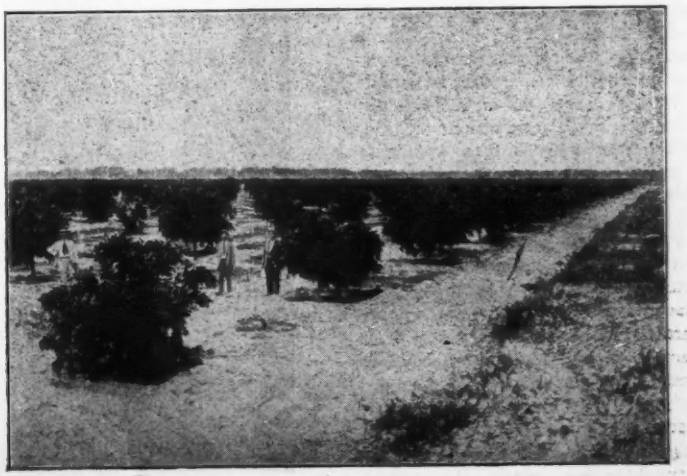
Citrus and Other Crops in Lee County

By Prof. H. E. Stevens, Fort Myers, Fla.

The locality in which a commodity is produced often exerts a marked influence on the popularity of that article. We see this daily in commerce more particularly in regard to our agricultural products. A certain locality will have some peculiar character of soil or some climatic condition under which fruits, vegetables, or other crops may be grown of much superior quality to those grown in other areas not far distant where the general soil conditions appear to be very much the same. A combination of factors may make a certain section of land better adapted to fruit or truck growing than land similar in character just a few miles away. This is peculiarly true of Florida where there is more variation in the character and condition of the soil than in any other State in the Union. However it is this diversity in Nature that has scattered our agriculture over the earth and which has produced an agricultural industry of some kind in all lands inhabited by man. A crop has been developed to suit the soil, climate and general conditions of the surrounding region.

The influence of locality on the quality of certain farm products frequently leads to a national reputation and a popular and profitable demand for that product. The Rockyford cantaloup, the California navel orange, California raisins, Georgia peaches, Texas onions and Kentucky tobacco, indicate limited regions where these products are grown to the height of perfection in quality, and a reputation and demand has been established for them. Many of these products may be grown in other sections of the country and probably the equal in quality, but they are generally not accepted by the public for the same value as those grown in the localities in which their reputations for quality have been established. With all of our agricultural crops, whether general or special, there are certain well defined localities where each crop reaches its maximum perfection in excellence and quality. It is true with the citrus crop of Flordia.

There are very few localities in the State where the citrus tree will not grow and produce a certain grade of fruit, but the areas producing grapefruit and oranges of superior quality are limited and scattered thru out the State. Often it is confined to a single grove or parts of a grove. In a general way the pineapple orange and the early commercial varieties are of better quality when grown in the northern part of the citrus belt. The best quality of grapefruit generally comes from the coastal areas in the southern part of the State along the Atlantic and Gulf coasts. The Valencia orange, for climatic reasons, is better adapted for growth in the southern part of the citrus belt where fruits of excellent quality can be produced. Root stocks, bud variations and cultural practices



may enter into the quality production of each individual grove, but location after all is the primary factor in quality production. The soil and climate must be suitable for the variety of citrus one wishes to grow. These are the basic factors which Nature provides and factors that have been often overlooked in the planting of citrus groves in the past.

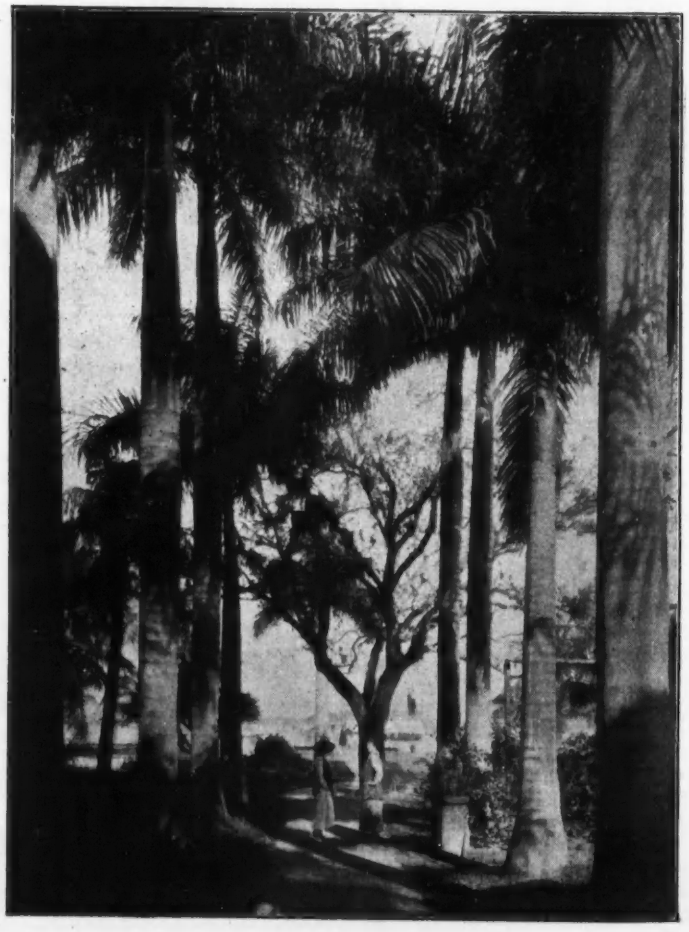
Lee county can claim its part in the production of high grade citrus fruits second to none in the quality of grapefruit grown in various sections of the county and the Valencia orange can be grown of better quality than is found in many other parts of the State where this variety is planted. There is no finer grapefruit grown than that which is produced in some of our Island groves or in those groves near to the Gulf coast which comes under the influence of the Gulf breezes. The fine texture of this fruit, and the quality, flavor and content of its juice has found favor with the consuming public and it commands a high place in the leading markets of the country. Lee county has already established a reputation for the production of a highly desirable grapefruit. This does not mean to imply that all of the grapefruit groves in the county produce fruit of the highest quality. We can produce just as poor an article here as in any other section of the State and some of our groves do so, but we have areas or soils especially suited for the production of the highest quality of grapefruit and it is to such soils that we should direct our attention for grove purposes.

In general the pineapple orange grown in Lee county does not attain that perfection of quality that it does in many other parts of the State. It requires a different type of soil than is ordinarily found here. There are a few groves in the county in which pineapple oranges of high quality might be found but the area of land suitable for the production of high grade pineapple oranges is so small and scattered as to be of little value in the economic production of this variety. The same is true with the tangerine, and the early maturing varieties of oranges are wholly unsuited for this section. If the grapefruit and Valencia orange are better adapted to this region these are the two varieties to concentrate upon. It seems mere folly to grow a poor grapefruit in a section where the pineapple or some other variety of orange is better adapted to succeed or a poor pineapple orange on soils better suited for the production of a high grade grapefruit. That is one of the troubles confronting the citrus industry of the State today. We have had in the past a conglomerate planting of many citrus varieties in all the citrus growing sections of the State, which has resulted in an increased production of inferior fruit. This fruit has flooded the markets in competition with the best grade fruit and has caused prices ruinous to the man who grows fruit. It costs just as much to grow a fruit of poor quality as it does one of the highest quality and such a fruit is only a deception to both the producer and consumer. One of the big problems before the citrus growers of Florida today is the reduction of the bulk of this poor quality fruit. It will require time and probably the working over or elimination of certain groves in many parts of the State, and a more judicious planting of groves in the future. If a section is best suited for the production of grapefruit of the highest quality, the commercial plantings in that section should be confined to grapefruit. The same should apply to the Valencia orange, the pineapple orange, tangerine and all other commercial varieties. First be certain that your soil will produce citrus fruits of quality and then determine which variety it will produce the best.

The first citrus plantings were made in Lee county about the close of the war, or following the year 1865. These consisted of a few hundred sweet seedling orange trees clustered in small groves along the Caloosahatchee river and a few small plantings along the Orange river near Buckingham. A few seedling grapefruit trees are generally found among these plantings. Many of these old trees remain to-day and continue to bear good crops of fruit. They have survived the storms and winters of sixty years and show little evidence of injury from the great freeze that visited the State in 1894 and 1895. I feel that we can yet learn much from the old sweet seedling orange and it may be a factor in our future plantings. It has stood the test of time much better than many of our budded varieties.

After the freeze of 1895 many of the citrus growers in the northern part of the State migrated southward

Continued on page 30



CITRUS COMMENTS

BY

R. E. Lenfest, Manager Horticultural Department
Orange County Citrus Sub-Exchange, Orlando

This Years Crop

Each season growers and marketing agencies attempt to estimate the size of the crop as accurately as possible. It is good business to do this so as to be able to make plans for the best handling of the fruit. The government made an estimate last year that was much too high and have done the same thing again this year. What seems to be a more accurate estimate and one agreed upon by several estimaters places the crop at around sixteen million boxes, and one adds that it may run below this amount. Reports also state that the California crop is not heavy. This being the case it is certainly worth while for every grower to keep his fruit in the best possible marketable condition. To do this will call for close attention right up to a very short time before the fruit is marketed.

Rust Mites

Up till the early part of September the moist rainy weather in most sections enabled the rust fungus to do a great deal of good in checking the russeting of fruit. But recently the weather has been quite generally dry and the numbers of the rust mites have increased rather rapidly. In order to be sure the fruit remains bright the mites will have to be watched closely and regular inspections made. If many are found on the fruit it will be advisable to dust with sulphur or use liquid lime-sulphur.

Fall Pruning

A good many whose groves are of bearing age with very few young trees to require attention find that early fall is a good time to do some pruning especially the removal of dead wood. If care is exercised the fruit on the trees will not receive much injury from the dead wood as it is carried or dropped to the ground. As in all pruning the cuts must be made close to the trunk or limb from which the wood is being removed. The larger cuts should be painted to preserve the exposed wood until the wound is healed over. In removing the small wood be sure that the blade of the pruning shear is kept next to the tree so that there will be no long stubs left. To do this requires only a small amount of additional time and effort and make all the difference between a good job and one that is often times almost worthless.

Cover Crop

Where the cover crop was cut several weeks ago it should now have a good second growth coming. If the cover crop is beggar weed, and the pumpkin bugs are not too numerous, this second growth should be allowed to produce mature seed if it will. The plan of cutting the cover crop at least once in the summer is a good one as it makes it work in better later in the fall. But where the next years crop is dependent, in part, on the seed from this year then part of the crop must be allowed to mature.

Yellow Grapefruit Leaves

The grapefruit crop as a whole is rather light but there are groves and scattering trees having good crops. Some of the trees are showing yellow leaves due to the amount of fruit they are carrying. Where this yellowing occurs it can be checked by the careful use of nitrate of soda. The use of one-third to one pound of nitrate is generally sufficient. This should be applied only to the trees that have heavy crops and are showing the yellowing due to crop strain. If only part of the tree is yellowing then treat only that side with its proportionate amount. The object is to check any further yellowing and NOT to bring back the color of the leaves to green. If enough nitrate is used to bring back the color of the leaves the sizes of the fruit will be apt to become too large to be the best sizes at the time of shipping. If the effect of the heavy crop is checked on these trees there will be less dead wood showing next year and the trees will get back to normal much quicker. It is a little more difficult to treat orange trees that are showing crop strain as they are not such heavy feeders and there is a danger that too much nitrate will be used, causing trouble later.

Fall Spraying

The fall clean up spraying with oil emulsion is one of the most important of the year. The white flies and scales are in stages that may be killed. Another point in favor of fall spraying is that the oil emulsion may be used stronger than during the warmer months of the year. The ordinary oil emulsion may be used 1 to 50 or even 1 to 45. This spraying in addition to reducing the numbers of scales and whiteflies does a great deal of good by loosening up the sooty mold so that the leaves may have a chance to function properly. Trees with heavy coatings of sooty mold will make very little new growth and set very little fruit. It seems that the white flies are somewhat more numerous this season than last year. This will call for thorough spraying. It must be remembered that no matter how effective or how good the insecticide you use may be the results depend very largely on the thoroughness of the work. All parts of the trees must be covered and this cannot be done by trying to spray too many trees in a day or by trying too be too saving of the material. Give particular attention to covering the under side of all the leaves. After you have done that and covered the trunks and branches you will have covered most of the upper sides of the leaves as well.

It might be well to call attention to the fact that it is not advisable to use Bordeaux-oil in the fall. This statement is made upon the advice of men in position to know: O. F. Burger, H. R. Fulton, J. G. Grossenbacher, C. D. Kime, J. R. Winston, and W. W. Yothers.

Fall Fertilizing

Like the fall spraying the fall application of fertilizer is very important. In figuring the needs of the grove the present condition of the trees and fruit as indicated by the general color of the trees and the size and quality of the fruit should be carefully considered. Trees having heavy crops can use more fertilizer than those with light crops.

Where the spring and summer fertilizers have been of the type having one third to one half the ammonia from organic sources the fall ap-

Continued on page 28

Blackberries In Florida

By H. G. Gardner

Florida being the oldest state in the union, lying in the semi-tropics, boasting the oldest town in the United States is still the youngest of any of our great Metropolis', from an Agriculture and Horticultural standpoint.

Florida not only has the most remarkable climate of any state in the union, its scenery also rivals that of any similar portion of the United States. Its wooded hills dotted with a myriad of lakes glistening like diamonds against the sky. Its massive live oaks covered with great festoons of grey spanish moss. Its tropical palms of many varieties and fruit growing in abundance all over the entire state.

Florida has yet millions of acres of land untouched by the hand of man, that is only waiting for the plow shear to yield. Only within recent years have the eyes of the nation turned toward this wonderful state. We are only making the past decade reveal to us the possibilities of what may be expected in this vast empire.

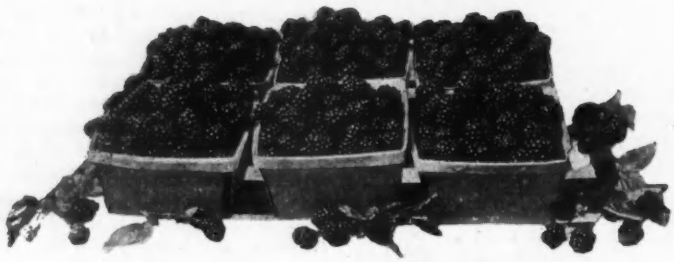
Only within the last year has it been found that a great many of our smaller fruits could be grown and produced in Florida.

It was generally conceded by all, that Blackberries could not be grown with us. Now we are producing the very best Blackberries, both as to quality and size. These Blackberries ripen from the first of April until the middle of June. Trial shipments show that our Blackberries will carry equally as well as the Strawberries. A great deal of our land is well suited to Blackberry culture.

The Blackberry does not do so very well on light sandy soil without being artificially watered as it blossoms in what we term our dry season, grows and matures its fruit. It should be well supplied with humus and moisture in the soil.

There are several varieties of Blackberries being grown in Florida at the present time. The Florida Marvel (Rubus Velox) is a hybrid Blackberry supposed to be a cross between the Dewberry and Blackberry. This has been the most widely planted Blackberry in Florida up to the present time. The Berries are very large and almost round, some of them showing caliper of well over an inch. This berry has a sprightly sweet acid flavor which is very desirable for culinary uses. The seed in the marvel Blackberry are almost absent, what few there are being large and soft, almost unnoticeable.

The next Blackberry of importance planted at the present time is the Topsy, sometimes called the tree Blackberry (Rubus Probabulas). This Blackberry is much smaller than the marvel as to size of fruit, but is much sweeter with a very desirable flavor. The vines of this variety are growing upright, so does not require a trellis, hence the name; Tree Blackberry. This berry is from two to four weeks later than the marvel and extends the season well up into June.



Cut by courtesy of the Southern Nurseries Inc., Bartow, Fla.

We have a new Berry planted in the upper portion of the state, called the Young Dew Berry. It has the flavor of the Loganberry and the hardiness of the Marvel. Mr. Carl B. James of the A. C. L. Railroad, praises this berry to the top. He states that it is not inferior to the Loganberry, also says that with proper handling it will be a good shipping berry. This one has not yet been generally distributed.

As stated above all Blackberries should be planted on low moist soil and the fertilizer used should be a complete one, analyzing 6-8-5. In the fall of the year a small amount of Sulphate Potash should be used as this matures the bloom buds and produces a higher quality of fruit, with a superior carrying quality to that has not been fertilized with potash.

All small fruits in Florida have been neglected and are only awaiting the hand of the developer to produce new wonders and gather untold riches from the soil.

AUSTRAILIAN CITRUS CROP

"The Fruit World of Australia" of May 1, 1925, has the following to say with reference to citrus fruits:

"Problems confronting citrus growers in Austrailia were frankly dealt with in a thoughtful article contributed to the Melbourne 'Argus' by Mr. Stanley Brentnall, of Victoria, who is Chairman of Directors of the Victorian Central Citrus Association Pty., Ltd.

"After outlining the activities of the Victorian Central Citrus Association during the past three years, Mr. Brentnall referred appreciatively to the 'finest example of independence and self-help yet devised for the disposal of a primary product, viz. the California (Citrus) Fruitgrowers' Exchange, at the same time urging all Victorian growers to cooperate for the common good.

"Mr. Brentnall then gave the following interesting figures: the capacity of the Melbourne market was 10,000 cases per week; thus in the 30 weeks from June to December, a total of 300,000 bushels was all that could be absorbed; these figures could be reduced by 2,000 to 5,000 per week during a wet or cold spell; the 1925 output of Victorian citrus was 315,000 cases. Last season 46,000 cases of South African oranges came on the Melbourne market, and the quantity expected from New South Wales was 20,000 cases. Western Australia, which could not consume more than 25 per cent of its out-put, also sought a market in Melbourne.

"The obvious solution lay in the export trade, and the obligation rested on district associations to send forward their quotas. Problems of sea carriage and marketing could not be solved by a miscellaneous collection of single instances—continuity was the first essential for successful experiment."

Nobody has more poor relatives than a scrub bull.

Handwork and footwork amount to much more if directed by good headwork.

7,305,672 Bearing Orange Trees in State

There are 7,305,672 orange trees of bearing age in Florida, according to the 1925 farm census report sent out by the department of commerce, at Washington.

Trees not of bearing age number 6,096,861, the report states.

In the lemon production, 84,272 trees are ready to bear, with 68,909 not yet matured. Of the grapefruit crop, 2,971,910 trees are matured, and 960,909 are not yet of age.

Of the individual counties, Polk is far in the lead in citrus trees of bearing age, and in most respects, those not yet matured, the report shows.

The report for the counties follows:

Alachua county, oranges, 10,650 trees not of bearing age: 34,247 of bearing age; lemon, 8 not of bearing age and 17 matured; grapefruit 233 and 1,679.

Baker, 494 and 1,021 in oranges; lemons, 2 and nothing; grapefruit, 8 and 10.

Bay, oranges, 62,118 and 3,934; lemons, 26 and 14; grapefruit 901 and 298.

Bradford County

Bradford, oranges, 3,336 and 3,698; lemons, 13 and 4; grapefruit, 54 and 158.

Brevard, oranges, 198,257 and 377,988; lemons, 356 and 1,017; grapefruit, 27,526 and 135,895.

Broward, oranges, 21,646 and 16,412; lemons, 1 and 48; grapefruit, 3,257 and 6,466.

Hamilton, oranges 25 and 43; lemons, 2 and none; grapefruit, 49 and 75.

Hardee, oranges, 152,197 trees not bearing age; 281,823 of bearing age; lemons, 719 and 1,649; grapefruit, 3,300 and 35,653.

Hendry, oranges, 17,926 and 16,419; lemons 277 and 420; grapefruit, 16,000 and 6,910.

Hernando, oranges, 79,507 and 57,002; lemons, 32 and 96; grapefruit, 3,137 and 13,377.

Highlands, oranges, 315,539 and 293,603; lemons, 210 and 545; grapefruit, 150,178 and 203,354.

Hillsborough County

Hillsborough, oranges, 802,925 and 492,091; lemons, 2,261 and 5,239; grapefruit, 22,620 and 120,620.

Holmes, oranges, 2,314 and 76; lemons, none; grapefruit, 28 and 4.

Jefferson, oranges, 653 and 114; grapefruit, 8,198 and 2,169.

Lafayette, oranges, 365 and 48; lemons, 3 and none; grapefruit, 16 and 31.

Lake, oranges, 494,643 and 463,099; lemons, 12,409 and grapefruit, 171,552 and 159,150.

Lee, oranges, 24,260 and 123,901; lemons, 499 and 3,475; grapefruit, 13,671 and 213,390.

Leon, oranges, 1,119 and 138; lemons, 1 and 1; grapefruit, 78 and 89.

Liberty, oranges, 363 and 62; lemons, 2 and none; grapefruit, 15 and 6.

Calhoun County

Calhoun, oranges, 23,698 and 496; lemons, 19 and 3; grapefruit, 1,125 and 10.

Charlotte, oranges, 22,272 and 22,753; lemons, 381 and 4,118; grapefruit, 1,958 and 9,160.

Citrus, oranges, 21,879 not of bearing age and 5,064 of bearing age; lemons, 17 and 72; grapefruit, 549 and 422.

Clay, oranges, 2,065 and 4,495; lemons, 15 and 20; grapefruit, 73 and 106.

Collier, oranges, 10,624 and 7,413; lemons, 19 and 148; grapefruit, 634 and 16,725.

Columbia, oranges, 750 not of bearing age and 339 of bearing age; lemons, 5 and 3; grapefruit, 37 and 37.

Dade, oranges, 20,641 and 166,191; lemons, 244 and 3,356; grapefruit, 20,962; and 304,772.

DeSoto, oranges, 95,491 and 259,359; lemons, 6,437 and 9,065; grapefruit, 1,355 and 36,993.

Dixie, oranges, 2 and 30; lemons, none; grapefruit, three trees of bearing age.

Duval, oranges, 4,723 trees not of bearing age; 13,863 of bearing age; lemons, 22 and 46; grapefruit 228 and 533.

Escambia, oranges, 52,812 and 10, 990; lemons, 453 and 5; grapefruit, 291 and 13.

Flagler, oranges, 16,091 and 2,573; lemons, 9 and 34; grapefruit, 1,111 and 517.

Franklin, oranges, 142 and 18; lemons, 1 tree not of bearing age; grapefruit, none.

Gadsen, oranges, 1,701 and 42; grapefruit, 13 and 13.

Glades, oranges, 2,216 and 2,435; lemons, 7 and 22; grapefruit, 15 and 626.

Madison, oranges, 453 and 80; lemons, 12 and 1; grapefruit, 855 and 116.

Manatee, oranges, 28,132; and 117,185; lemons, 8,302 and 1,614; grapefruit, 13,373 and 170,756.

Marion, oranges, 413,705 and 209,747; lemons, 6,254 and 1,509; grapefruit, 4,781 and 12,005.

Monroe, oranges, 5,635 and 5,841; lemons, 600 and 2,612; grapefruit, 152 and 5,685.

Nassau County

Nassau, oranges, 144 trees not of bearing age; 101 of bearing age; lemons, 1 and none; grapefruit, 56 and 4.

Okaloosa, oranges, 13,802 and 98; lemons, 68 and 11; grapefruit, 97 and 31.

Okeechobee, 23,809 and 17,069 for oranges; lemons, 3,364 and 1,165; grapefruit, 1,273 and 4,533.

Orange, oranges, 406,738 and 817,044; lemons, 9,530 and 2,101; grapefruit, 9,444 and 94,478.

Osceola, oranges, 69,118 and 115,814; lemons, 615 and 1,330; grapefruit, 2, 729 and 33,062.

Palm Beach, oranges, 22,313 and 57,120; lemons, 20 and 1,497; grapefruit, 11,432 and 69,819.

Pasco, oranges, 100,751 and 81,539; lemons, 1,132 and 934; grapefruit, 6,814 and 20,207.

Pinellas, oranges, 154,198 and 288,268; lemons, 286 and 610; grapefruit, 36,368 and 304,990.

Polk, oranges, 1,496,032 trees not of bearing age; 1,574,344 trees of bearing age; lemons, 10,806 and 24,988; grapefruit, 255,599 and 571,692.

Putnam, oranges, 56,343 and 207456; lemons, 44 and 2,206; grapefruit, 1,682 and 21,063.

St. Johns, oranges, 4,942 and 11,930; lemons, 10 trees of bearing age; grapefruit, 56 and 849.

St. Lucie, oranges, 234,695 and 234,800; lemons, 2,052 and 5,150; grapefruit, 117,402 and 298,235.

Santa Rosa, oranges, 27,847 and 1,722; lemons, 19 and 20; grapefruit, 458 and 376.

Sarasota County

Sarasota, oranges, 21,413 and 31,400; lemons, 340 and 649; grapefruit, 5,348 and 23,775.

Seminole, oranges, 72,504 and 199,822; lemons, 20 and 417; grape-

Continued on page 28

Chinch Bug Control on St. Augustine Grass

By A. H. Berger, Assistant Entomologist, Florida Experiment Station

The chinch bug was first recorded in the United States as an economic pest about the year 1783 in Orange County, North Carolina, where it threatened the crops in that section of the south. From this outbreak the infestation has spread each year until it covers practically the eastern half of the United States, including the Mississippi Valley, with scattering outbreaks throughout the western states.

Generally speaking the chinch bug attacks only plants of the grass family,while such crops as clover, cowpeas, peas, beans, potatoes, beets, sunflowers and rape are immune, or practically so, to injury from this pest. This insect has created widespread attention among landscape gardeners, civic improvement societies, and all residents of Florida who have to do with the keeping up of lawns, because of its attack on St. Augustine grass which has been generally adopted as a lawn grass over the entire state. Because it is native to the coast from North Carolina southward to Florida, growing especially well on alluvial and muck soils, this grass is cultivated in the coast states. The scientific name is **Stenotaphrum secundatum** Walt. Lawns of this grass have a coarse texture but are otherwise satisfactory. The grass is propagated by setting out cuttings or pieces of stolens bearing shoots. The plant has a peculiar structure which consists of rather broad and short obtuse blades lapping over both sides of the stem, commencing with the axis and extending along the stem about an inch and a half. This has been observed in the writer's studies to be the point of attack made by the chinch bug upon the grass.

How The Chinch Bug Injures The Grass

The chinch bug feeds on the growing grass throughout its entire life. It is armed with a four jointed beak equipped with lancelets for piercing the plant and causing a flow of sap which is sucked into the stomach. The insect, especially in the immature stages, implants itself under the laterals of the close fitting leaves and in its feeding imparts a reddish stain to the plant parts attacked, and causes the death of the cells. The feeding of a large number of bugs on the growing plants, as can be seen, prevents normal growth and brings about a dwarfed condition of the plants, causing many of them to die and giving the appearance of brownish or deadened spots in the lawn, while serious outbreaks often threaten the destruction of the entire lawn.

The chinch bug thrives best when the plants are most tender and succulent, usually during the winter months, including the late fall and spring.

How To Know The Chinch Bug

The easiest way for the layman to distinguish the chinch bug is by its disagreeable odor. The full grown or adult insect has two forms, one having short wings which reach only one-half to two-thirds of the length of the abdomen, and the other having long wings which reach almost to the tip of the abdomen. Both forms are white immediately after the skin is shed from the previous stage, but they soon become black. The upper wings are whitish at the base, white at the tips and bear black spots in the center. The under wings are whitish, folded membranes. The insect is about a fifth of an inch in length. The adult may easily be distinguished from the nymph by its larger size, presence of wings, and absence of reddish coloration.

The eggs are laid in the soil near the roots of the grass. They are about .33 of an inch long and are shaped somewhat like a bean, and are of an amber color. A single female has been found to lay from 105 to 250 eggs.

The young undergo six stages in their development. It is during these stages that the insect is found implanting itself under the leaf sheaf of the grass as previously mentioned. The young, or nymphs, are without wings and have reddish coloration, but otherwise they resemble the adults in appearance. The insects move about freely and may be found on any portion of the plants until the feeding habits are established. The writer has found in his studies that there are at least two generations with an overlapping which may later prove to be a third generation occuring during the summer.

Conditions Favoring Outbreaks

An observation of certain weather conditions is the best indication of an outbreak of chinch bugs in lawns. Warm and fairly dry weather during the spring and fall are the most favorable periods for the abundant hatching of chinch bug eggs, as they are deposited by the females in the greatest numbers during these seasons. Destructive outbreaks are sometimes prevented by a series of drenching rains, or a prolonged rainy or humid season during the hatching period.

Control Methods

Natural control has been found to be undependable, because the chinch bug can withstand almost any conceivable climatic condition or variation. The range of temperature thru which the chinch bug has been found to subsist is from 15 degrees below zero (Fahrenheit) to 135 degrees (Fahrenheit). Under these extreme temperatures, however, the chinch bugs are found to die in a few minutes.

Fungous Diseases

Fungous diseases known to attack the chinch bug, among which is **Beauveria globulifera,** are entirely dependent on the frequency of cloudy or wet weather during the hatching period of the young bugs. This dependency upon certain kinds of weather prevents these diseases from destroying the chinch bugs in large numbers. This disease attacks many other insects and is present every year throughout chinch bug territory. Therefore it becomes abundant under favorable weather conditions without artificial introduction. Another disease which has been found of value in chinch bug control during humid seasons, and which also attacks the cutworm and other insects, is **Sorospella uvella.**

Because of the fact that these fungous diseases are dependent on weather conditions, it is readily seen that their introduction in the control of chinch bugs is of little value.

Predators and Parasitic Enemies

Among these the most important enemies of chinch bugs are lady beetles, trash bugs, and the larvae of lace wing flies. Ants have also frequently been found to destroy chinch bugs. No true parasites have as yet been recorded by the writer as ascailing the chinch bug.

Artificial Control Measures

Since the natural enemies of the

Continued on page 24

Satsumaland Gets Advertising Fund to Boost District

Financing the national advertising campaign of the Satsumaland Fruit Growers has been completed, and it is expected the committee in charge of the effort will meet soon to make final arrangements.

The raising of the fund has been in the hands of Dr. Harry R. McKeen, extension director of the Florida Development Board, loaned by that body to the Satsumaland Fruit Growers for the purpose, Dr. McKeen has combined with this work a very successful endeavor to organize the leading communities of the six counties, comprising Satsumaland into local trade bodies of civic accomplishment, in connection with the proper handling of inquiries produced by the advertising.

Great impetus was given the movement by the action of the Panama City chamber of commerce in contributing forty per cent or $2,000 of the $5,000 that the Satsumaland Fruit Growers felt would be necessary to have for advertising.

Under the inspiration of this subscription every community so far visited by Dr. McKeen has responded in a splendid manner. Wewhahitchka started the ball rolling by pledging $300 and organizing an active chamber of commerce, with an operating budget of $2,000.

Blountstown Organized

At Blountstown two meetings were held, a business men's conference in the afternoon and a citizens' mass meeting in the evening. The chamber of commerce was reorganized, with a $5,000 operating budget, and $300 was appropriated for the Satsumaland advertising. Dr. McKeen will return later to complete the financing.

Officers elected were as follows: S. O. Newson, president, S. A. Leonard, vice-president, A. P. Higgins, treasurer, E. N. Atkins, secretary, D. B. Hayes, G. W. Parker, L. Williams, J. C. Tucker and Roger Adams, directors.

In Marianna the chamber of commerce and realty board combined in an enthusiastic meeting to start campaign for financing of latter body under auspices of the Florida Development Board, Dr. McKeen to have charge of a several days' drive at a later date to complete the work. A whole time paid secretary will be engaged and the work of the Marianna chamber made of broader scope than ever before. The Marianna allotment of $500 for the Satsumaland advertising campaign was accepted.

At Graceville the citizens responded in an enthusiastic manner to the appeal of Dr. McKeen, made at a business men's conference in the afternoon and a citizens' banquet at night. The chamber of commerce was reorganized, plans made to put on at an early date a campaign to finance its operations to the extent of $5,000 or more, the work to be directed by Dr. McKeen, and approximately $475 was subscribed to the fund for national advertising of Satsumaland.

Graceville Prospers

Conditions are satisfactory in the Graceville district. This year there was shipped out 1,092 cars of watermelons, most of which sold at prices renumerative to the growers. So far this Fall there has been ginned over 6,000 bales of cotton. Other crops have been produced in abundance, and the rich farming country surrounding is prosperous.

At Cottondale, a temporary organization of the chamber of commerce was effected with G. A. Gainer as president and William Coythan as secretary, Dr. McKeen will come back in a few weeks for adequate financing of the body. Seven prominent citizens guaranteed the Cottondale allotment of $300 for the Satsumaland advertising.

Cottondale is making notable progress, having recently awarded franchise for electric lighting and a water system. A dozen or more new buildings are going up or will be started shortly. Bank deposits increased between June 30, and Sept. 15 from $39,324.45 to $107,296.42. The cotton movement has been the best in years, shipments aggragating 1,340 bales during the season. Several cars of potatoes have been moved and between forty and fifty cars will represent the Cottondale production this season.

Bonifay Entusiastic

One of the best attended and generally most satisfactory meetings of the series was that in Bonifay, which enlarged the working plans of the Holmes County chamber of commerce. The board of lirectors accepted the allotment provided in the Satsumaland advertising budget and arranged for financing the entire amount. The Holmes civic body hereafter will be headed by K. P. Sessoms, as president, with W. E. Shelfer vice-president, Ross Masters, secretary, and James E. Still, treasurer. A night meeting on the lawn of the Bonifay Hotel was attended by more than 200, and Dr. McKeen's address was received with great approval. Additional meetings were held at Vernon and Ponce De Leon, with attendance and satisfactory results, but the entire contribution of the county to the national advertising campaign will be made through the Holmes County chamber of commerce.

At Chipley, the chamber of commerce was reorganized and a financial drive to raise a fund sufficient for its operation on a large scale was arranged, its direction to be under Dr. McKeen. It is the intention of the Chipley trade body to obtain the services of a full time, paid secretary, the members feeling the interests of the community demand and justifies this step. Chipley's allotment of $500 for the advertising fund was accepted and approved.

KILL WEEDS BEFORE THEY MATURE SEEDS

Now is the time to use the hoe, the scythe and the mowing machine against weeds. If these pests are destroyed now they will not have a chance to produce seed for a bigger crop next year.

This time of year the weeds line the roadsides, the fence corners, the edges of field and groves, and the pastures. Besides being an eyesore, they harbor pests and help furnish seed for weeds in the cultivated fields later.

Many pastures are ruined by the presence of weeds. At first there may be only a few, and so their removal is relatively easy. However, if they are allowed to grow and mature seed unmolested, a larger crop will be present next year and the pasture will finally be over-run. During the summer the mowing machine is the best friend of the permanent pasture.

This is the summary of suggestions made by the Agricultural Extension Division of the University of Florida.

Only workers pay for their keep. This is true of cows and chickens as well as bees and men.

The Citrus Industry

Exclusive publication of the Citrus Growers and Shippers

Address all communications to the Main Office
415 Stovall-Nelson Building
Tampa, Florida.

Telephone 4819

S. L. FRISBIE, Editor and Manager

A. G. MANN ..... Production Manager

Published Monthly by
Associated Publications Corporation
Tampa, Florida.

Subscription, $1.00 per year in advance

Entered as second-class matter February 16, 1920, at the post-office at Tampa, Florida under the act of March 3, 1879.

Branch office and production plant, Bartow, Florida.

GROVE CALENDAR FOR OCTOBER

Timely Suggestions for Grove Work During the Present Month

Make thorough clean-up spraying with oil emulsion to control white-fly and scale.

Be sure to wash sprayer thoroughly as soon as through using.

If cover crop is heavy, mow and allow to lie where cut (this controls pumpkin bugs.)

Make preparations for harvesting, but do not market green fruit.

Pick up and burn all pecan twigs cut off by girdlers.

Plow under cover crops. Put soil in condition and plant winter cover crop of oats and rye or mixture of both.

THAT CROP ESTIMATE

Estimating a growing crop of any kind is a hazardous undertaking, yet one which the federal authorities feel incumbent upon them to perform. Doubtless, these estimates are honestly given as the result of painstaking research and careful study—yet frequently they go wrong. A notable evidence of this was seen in the wide divergence between the official estimate of last year's citrus crop and the actual marketing figures available at the close of the shipping season. The official estimate overreached the mark of actual shipments by something like two millions of boxes, so far as the Florida production was concerned.

With this concrete example of falibility before them, it was to have been presumed that the official estimators would this year have exercised a degree of conservatism in making up their estimate of the crop. Instead of this, however, in the face of a very evident shortage of the Florida citrus crop as compared with that of a year ago, the estimators quite cheerfully assure us that the actual production will be some 600,000 boxes above last year's crop. Aside from the estimators themselves, no one connected with the industry takes the announcement seriously. Every well posted citrus man, whether he be grower, packer, buyer or shipper of citrus fruits, agrees that the official estimate of more than nineteen million boxes is anywhere from three to four million boxes above the actual crop on the trees.

But, while no one in the production, packing or shipping end of the citrus game is in the least misled by the exaggerated estimate of the crop experts, the buyer in the consuming markets will unquestionably use this exaggerated estimate as a sledge to hammer down the prices to the injury of the grower and shipper. And therein lies the danger. It is not what the grower and shipper KNOWS of the actual conditions, but what the Northern buyer SUSPECTS by reason of this exaggerated estimate, that is liable to hurt.

Spurred on by vehement protests of Florida growers and shippers, the federal authorities have promised a revised estimate of the year's citrus production. In the interest of the grower, and of fair play, it is to be hoped that this revised estimate may be forthcoming at once—and that when it is issued, that it will be found to be more nearly in keeping with the actual conditions than the first ill-advised and misleading estimate. The grower's and shippers problems are sufficiently burdensome without being called upon to carry the handicap of exaggerated official estimates.

SOME GOOD ADVICE

The Citrus Industry this month carries a story on citrus development of Lee county, by Prof. H. E. Stevens, former county agent of that county. While Lee county is not one of the heaviest citrus producing counties of the state, it is an important production center, and the fruits grown there hold an enviable reputation for quality.

Probably no man in the county is better qualified to write of citrus conditions there than Prof. Stevens, and his article, while comprehensive, is so conservatively written that it must appeal to all readers by reason of its evident fairness.

The Citrus Industry desires particularly to call attention to Prof. Stevens' advice to growers in the matter of careful selection of soil types for the different varieties of citrus. There should be less of conglomerate planting, less of the helter-skelter attitude on the part of grove owners, and a greater study of adaptability of variety to soil type. If grapefruit were planted only on soils adapted to grapefruit, pineapples only on soils adapted to the best development of this variety, and valencias only on valencia soil types, we would have by far better quality in our fruits and better bank accounts to the credit of our growers.

Instead of trying to see how many varieties he can grow in one grove, the grower would make more money if he planted his entire grove to the one variety to which his soil and climatic conditions are best adapted. This is a lesson

which many growers are learning at the expense of lessened profits.

RAILROAD OFFICIALS TELL OF SOUTH'S PROGRESS

Southern railroad officials in special dispatches to the Manufacturers Record as to the business situation and the outlook for the South are exceedingly optimistic in their forecast.

Henry Walters, chairman of the Atlantic Coast Line wires:

"I believe that the Southeast has now established a degree of prosperity which will attract a class of white population capable of aiding us to utilize our vast territory of productive land, our great mineral deposits and our thousands of water powers. Great as has been the growth of the Southeast in the past ten years, the next ten will be far greater."

President Warfield of the Seaboard Air Line says:

"The Southern country presents greater opportunity for investment in business ventures than any other section of this country. I believe that the climatic conditions of the Southern country—and when I say Southern country I mean all of it—the character of the soils, the living conditions afforded and the average low price of farm lands must necessarily bring to the South a great number of those who now have their business and living in the rigorous climates of the Northwest and far East."

President L. A. Downs of the Central of Georgia Railway writes:

"Conditions in Georgia and Alabama, as affecting agriculture, industry and business, are generally more favorable than they have been in years. There is an increased tonnage on such commodities as cotton, lumber, logs and wood, fertilizer and fertilizer material, fruits melons and vegetables, stone, sand and brick, cement and lime, naval stores, cotton-seed oil, iron and steel, castings and machinery and cotton-factory products and merchandise in carload lots. There is marked activity in the textiles. The building trades show continued activity, while street paving, highway construction and public works are being carried on in every section of the two states."

H. N. Dodenbaugh, vice-president of the Florida East Coast Railway, gives some remarkable facts in regard to activity of passenger and freight business over his territory, from Jacksonville to Key West. Present activities in some respects exceed conditions at the height of the midwinter season last year. He says.

"The greatest number of Southbound passengers handled in one day over the road last winter was 2206. During one day last month the number of Southbound passengers totaled 2650, and last Sunday a new high mark was established at 3039. The greatest number of trains operated over a single division in one day during last winter was 56. One day last week we operated 62 trains in one division. With ample facilities, the maximum capacity for operating trains satisfactorily on a single-track railway is placed at 40 trains a day. With this greater number of trains that have been handled, it can be easily seen how remarkable our operating performance has been. As the South grows the Southern railroads must keep pace. Freight traffic on the Southern roads has nearly doubled in ten years. In this regard I will say that the freight business handled by the Florida East Coast Railway during June of 1925 was 104 per cent greater than was handled in June, 1924, and, conservatively speaking, we are handling 60 per cent more freight now than we did a year ago. Certainly our freight business has more than doubled in the past two years."

Mr. Rodenbaugh states that he has been greatly handicapped by shortage of common labor. He has recruited all available labor to be found in Georgia, Louisianna and Texas and now has agents throughout the West and East sending workmen down from New York, Cleveland and other large cities. To date they have recruited about 4000 additional laborers in this way.

President Markham of the Illinois Central, referring to the fact that his road was originally a Northern or Western line started in Illinois, says that at the present time two-thirds of its entire 8400 miles of first-track mileage is south of the Ohio River and that lately they have taken over 300 miles and are seeking to lease approximately the same number of miles of additonal first track in Mississippi and Louisiana. Referring to his company having gained access to the Mississippi Gulf Coast, he states that development of that region will be one of the principal aims of his road in the future, making it a winter playground and advertising it extensively in the North and West. President Markham says: "The outlook for the South was never more promising. With capital being invested heavily in Southern property and industries, with increased production in virtually every line of agricultural and industrial activity, with great activity in railway construction and harbor improvements for increased commerce by land and sea, all indications are that the South is entering upon an era of prosperity and expansion hitherto unknown."

"Joe" Lyons says that grove plantings in Florida will soon be back on the old time basis and that the profits of grove owners are as certain as the increase in value of city lots. No man in the industry is in closer touch with the situation than Mr. Lyons, and his views are always given weight.

A Northern reader writes The Citrus Industry stating that he expects soon to acquire Florida holdings for the development of a banana plantation, and wishes to know what steps he must take to become affiliated with the Florida Banana Growers' Association. That is the proper spirit. If we can get a real grower or planter for every city investor, the stability of Florida's "boom" will be assured.

In spite of the official estimators, the price of Florida's citrus crop this season promises to be in keeping with the growing demand and lessened supply.

German Markets for Citrus Fruits

Spain supplies most of the oranges bought by Germany, sending about two-thirds of the total imports, states Mr. J. J. Muccio, American Vice-Consul, at Hamburg, Germany, in a report received in the Department of Commerce. Italy sends about one-third of the oranges imported by Germany while small amounts are received from northern Africa. Germany gets practically all her lemons from Italy with very small quantities coming from Spain and north African Countries. The following table, compiled by Mr. Muccio, from German government statistics, indicates total German orange imports (including mandarines) and lemon imports for the years 1913, 1922, 1923, and 1924.

GERMAN IMPORTS OF ORANGES AND MANDARINES

(In boxes)	1913	1922	1923	1924
From: Italy	471,488	212,575	236,005	1,606,358
Spain	3,475,945	310,008	136,675	2,662,990
Other Countries	47,245	1,788	1,183	36,135
Total	3,994,678	524,371	373,863	4,305,483

GERMAN IMPORTS OF LEMONS (In Boxes)

From: Italy	851,547	528,196	315,242	965,129
Other Countries	45,276	4,165	3,259	22,540
Total	896,823	532,361	318,501	987,669

(Note: Mr. Muccio gave the above imports in metric tons (2,204.6 pounds). Conversion into boxes has been made on the following basis: Taking an averave box of oranges as 80 pounds, there are approximately 27.5 boxes in a metric ton. Taking an average box of lemons as 90 pounds, there are approximately 24.5 boxes in a metric ton.)

1924 being the first normal year since prior to the War, states Mr. Muccio, there was a very large importation of oranges which exceeded the 1913 imports. The above figures also discloses the increasing imports from Italy; Germany bought 1,606,358 boxes of oranges from Italy in 1924 as against 471,488 boxes in 1913. Whereas in 1913, Italy supplied 10 per cent of Germany's orange imports, in 1924 she sent 37 per cent of the total imports. Spain, on the other hand, while furnishing 87 per cent of total German orange imports in 1913, sent but 62 per cent of the 1924 German imports.

The following table indicates approximate total monthly imports for 1924 and serves as an index of the periods of heaviest orange and lemon shipments into Germany:

The following table indicates approximate total monthly imports for 1924 and serves as an index of the periods of heaviest orange and lemon shipments into Germany:

Imports of Oranges and Mandarines into Germany

1924

January	394,075 boxes
February	992,750 "
March	701,113 "
April	613,608 "
May	546,250 "
June	282,543 "
July	34,980 "
August	7,755 "
September	2,530 "
October	2,723 "
November	40,123 "
December	687,473 "

1925

January	913,908 boxes
February	1,364,248 "

Imports of Lemons into Germany

1924

January	72,373 boxes
February	56,840 "
March	74,137 "
April	77,592 "
May	110,079 "
June	125,979 "
July	108,388 "
August	57,208 "
September	31,360 "
October	74,039 "
November	93,321 "
December	106,379 "

1925

January	80,287 boxes
February	60,711 "

In January, 1925, Germany imported 913,908 boxes of oranges as against 394,075 boxes in January, 1924; and in February, 1925, Germany imported 1,364,240 boxes of oranges as against 992,750 boxes in February, 1924. 80,287 boxes of lemons were imported by Germany in January, 1925, as against 72,373 boxes in January, 1924; and in February, 1925, Germany took 60,711 boxes of lemons as against 56,840 boxes in February, 1924.

There are no official statistics as to the amount of grapefruit imported into Germany, since the imports of grapefruit are grouped under the classification "Other citrus fruits, dates, figs, etc." At the beginning of 1925, there was a trial shipment of grapefruit to Hamburg (Germany) for the Central European market, and Mr. Muccio is informed from a reliable source, that since that shipment one of the local (Hamburg) fruit dealers has imported 2,000 boxes of Florida grapefruit. It is also reported that another Hamburg firm has imported 200 cases of Porto Rican grapefruit. The most important market for such imports is in Berlin; small amounts have also been reshipped to Norway and to Austria.

The 2,000 cases of Florida grapefruit imported were purchased outright by a Hamburg importer. They were shipped from Florida to Hamburg as ordinary freight. There was a loss of from 10 to 18 per cent. because of fruit which had deteriorated enroute, states Mr. Muccio ,so that all the cases (2,000) had to be unpacked, resorted, and re-packed at Hamburg. Despite this percentage lost in transit, the fruit sold at a good profit; and it is thought that such losses will be done away with through experience gained by repeated shipments and through the use of refrigerator space. The Florida grapefruit was sold direct to wholesalers at Hamburg by the importer, a good portion being sent to Berlin—the largest single citrus-fruit market in Germany. Most of the larger grocery stores in Hamburg are carrying Florida grapefruit but there have been no recent shipments of Porto Rican fruit.

Mr. Muccio states that it is practically impossible to tabulate the wholesale prices received for oranges and lemons in the Hamburg market since all such fruit is sold at auction and the prices vary considerably, not only from day to day but even within the day for a given brand and quality. The main difficulty in accurately indicating prices received at the various periods is the fact that there is no uniform size of container. Fruit from each locality has its own trade name and is packed in different-sized cases. Besides, there are seldom consignments with more than 25 cases of any one brand and size offered at auction. It is not practicable, therefore, to compare the prices obtained in the Hamburg market with those quoted in other countries for the same period. The following tables give prices at auction for lemons and oranges in September, 1924, December, 1924, and in March, 1925. It should be noted, however, that these prices merely give the mean range at which most fruit was sold at auction.

Wholesale Prices for Lemons

(Sicilian lemons)		
September 1924	150's	$6.24 to $8.88

	300's	2.75 to 5.28
	360's	1.38 to 2.82
	504's	0.96 to 1.44
December 1924	150's	$3.66 to $4.86
	300's	1.68 to 2.70
	360's	1.44 to 1.80
	504's	2.04 to 2.16
March 1925	Practically the same as for December, 1924.	
(Valencia & Murcias)	Wholesale Prices for Oranges	
September 1924	Practically no imports.	
December 1924	200's	$2.16 to $3.78
	(few at $5.76)	
	240's	3.36 to 4.32
	(few at $5.40)	
	300's	3.40 to 5.16
	360's	3.36 to 4.80
	504's	4.32 to 4.68
March 1925	200's	$3.72 to $5.76
	240's	3.30 to 5.16
	300's	3.30 to 5.22
	360's	3.30 to 4.80
	504's	3.24 to 4.44

(Note: The above figures were given in shillings by Mr. Muccio and have been converted in the basis of 1 shilling equals 24 cents, approximately.)

The first arrivals of Florida grapefruit sold readily but the Hamburg importer had some difficulty in getting rid of later arrivals, even at lower prices. The first auctions from the Porto Rican 200-case grapefruit consignment brought 22 shillings (approximately $5.28) a case but the price gradually declined through lack of demand so that the last few offerings of this fruit brought only 13 shillings (approximately $3.12).

Under Item No. 51-a, of the German customs tariff, oranges and mandarines are subject to an import duty of 2.50 marks per 100 kilograms (or 220.46 pounds). Lemons, under Item No. 51-b, enter free of duty; and grapefruit, under Item No. 51-c, is subject to a duty of 12 marks per 100 kilograms (or 220.46 pounds).

Hamburg is the principal center of the citrus-fruit trade in Germany. Citrus fruit is distributed to practically all of Germany from Hamburg with the exception of the small southern sections which are supplied by rail from Trieste and Venice (Italy). Over 85 per cent of German orange imports for 1924 passed through Hamburg, the remainder going into the south German market by rail from Trieste and Venice, as already mentioned. Hamburg also received over 90 per cent of German lemon imports. The bulk of German citrus-fruit imports arrives at Hamburg from Spain and Italy direct by steamer as ordinary freight. The fruit is discharged in the free harbor direct from the steamers into storage sheds located along the quay, there being two such sheds, each about 100 feet wide and 500 feet long, devoted exclusively to fruit. These warehouses (or refrigerators) are well ventilated and capable of heating when necessary to prevent freezing. Whenever citrus fruit arrives in damaged condition, it is picked over, sorted, and re-packed in the warehouse.

Practically all the citrus fruit is sent to Hamburg on consignment and then sold at auction. On the morning of the auction, sample cases of each variety of fruit to be sold are opened and displayed in the warehouses, where the fruit may be inspected. The auctions are always held in the "Fruchthof", a building used entirely by fruit merchants. Catalogs are available, with details of origin, trade mark, size, and number of each brand. The auctions are frequented not only by Hamburg wholesalers but also by wholesale fruit dealers (or their representatives) from other German cities. At the height of the fruit season, up to 50,000 cases of fruit are often sold in a day. Immediately after the auction, the fruit is loaded on the cars running alongside the warehouses, for distribution throughout Germany. These cars are ordinary freight cars, no refrigerator service being available.

As stated, Italy supplies practically all German lemon imports. The Italian lemons are of very good quality, states Mr. Muccio, and are placed on the Hamburg market at relatively very low prices. In good crop years, Spanish and Italian oranges plentiful, and the quality of such oranges has been steadily improving as the Spanish and Italian shippers are taking greater pains in sorting and packing their fruit. Though the high quality and finer appearance and uniformity of American oranges is not attained, yet the difference in price between American and other oranges—the greatest factor in marketing citrus fruit in Hamburg, according to Mr. Muccio—offsets the superior quality of American offerings.

Grapefruit has but recently been introduced into the Hamburg market, and is considered more or less of a novelty. The general public knows very little of the uses and methods of preparing grapefruit. It is not used at breakfast by the Germans but mostly at fancy dinners. Recently imports of grapefruit at Hamburg were purchased mainly by hotels catering to foreigners and by grocery stores specializing in fancy products. Mr. Muccio feels that the ability of Hamburg fruit dealers to dispose of 2,000 cases of grapefruit received after the first of the year, at a substantial profit, would indicate a good potential market in Central Europe, especially in view of the fact that a goodly portion of such consignment sold at more than twice the cost plus customs duties. Mr. Muccio is of the opinion, however, that the German market for grapefruit could not well be expanded without some preliminary effort, preferably by advertising which reaches the consumer. Such advertising might be done effectively on individual fruit wrappers. Instructions as to use and preparation of the grapefruit might be printed on the wrapper in German. Attractive posters might also be prepared and furnished retailers for window display in order to facilitate the introduction of grapefruit. Mr. Muccio also feels that literature emphasizing the health giving properties of grapefruit should make a strong appeal. At present, there is no organized effort to educate the German people to the uses and the value of the fruit. Grapefruit displayed in windows of grocery stores usually is mixed up with various other articles with no particular devices for centering attention upon it.

ENTOMOLOGIST

Receipt of applications for entomologist will close October 27. The examination is to fill vacancies in the Bureau of Entomology of the Department of Agriculture, for duty in Washington, D. C., or in the field.

The entrance salary is $3,800 a year. After the probational period of six months required by the Civil Service Act and Rules, advancement in pay may be made without change in assignment up to $5,000 a year. Promotion to higher grades may be made in accordance with the civil service rules.

The duties are to conduct detailed biological studies of fruit insects including the blueberry maggot, and to carry out field and laboratory experiments to ascertain the best means of controlling these insects.

Competitors will not be required to report for examination at any place, but will be rated on their education and experience, and publication or thesis to be filed with the application.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

When writing advertisers please mention The Citrus Industry.

New Fruit Preservative Placed on the Market

A new formula and method of treatment for preserving citrus and protecting it from the attacks of blue mold, stem end rot and other sources of decay has been placed on the market by Grady Zellner a well known resident of Lakeland.

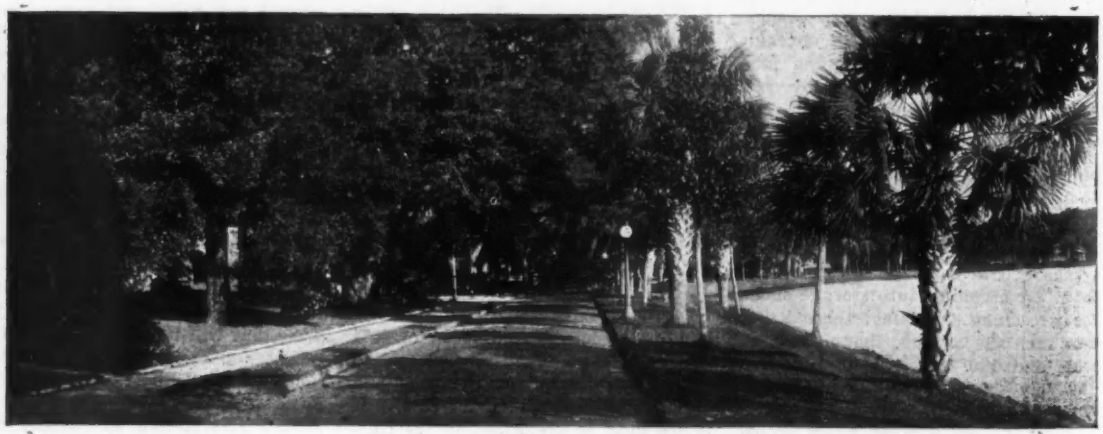
While Mr. Zellner's first efforts will be along the line of service to the citrus shippers, his formula is adaptable to all varieties of fruit and he expects later to extend his activities to other fruit producing sections.

Speaking of Mr. Zellner's formula, the Lakeland Star-Telegram says in part:

"Every grower and shipper knows that the most baffling of all problems has been that of transportation—the getting of the fresh fruit from the field or packing house to the ultimate consumer. People often wonder why there is such a wide difference between the price paid the producer and that received by the retailer. The difference is chargeable in most cases to the cost and the losses incident to the marketing of the product. Millions of dollars are paid in the shape of icing charges and then the fruit does not always carry well. On top of all these risks is the still greater one of a glutted market which spells disaster because every hour's delay in the sale of the fruit means additional losses through deterioration. With the treatment given as a result of Mr.Zellner's experiments, the fruit will keep at least eighteen days, this being guaranteed through insurance furnished by one of the largest insurance companies in the United States who did not sign an agreement until they had made thorough investigations of the value of his product.

"All this has to do with the revolutionizing of transportation. There is another phase that is purely of local interest. Loyal to Lakeland and to Polk county, Mr. Zellner has steadfastly refused to sell his formula to outside parties who would immediately establish factories in other sections of the country. Instead, he has elected to maintain the manufacture as a home industry, securing a suitable factory site here in Lakeland that will provide employment for at least seventy-five people and a substantial payroll that will add to the prosperity of the Lakeland merchants and business men.

"Public announcement of the discovery and practical use of Zeltrocide will cause a real sensation in the fruit industry, not only in this country but in every land where fruit is grown and shipped on a commercial scale. Lakeland is fortunate in being the headquarters of the corporation and the site of the factory that will produce an article calculated to put hundreds of thousands of dollars into the pockets of the fruit growers of the world."



Marlatt's European Visit Corrects Plant Quarantine Misunderstanding

Dr. C. L. Marlatt, chairman of the Federal Horticultural Board of the United States Department of Agriculture, after spending portions of July and August in France and Spain, where he had gone at the request of the Department of State to correct misunderstandings regarding the purpose of quarantine and embargo actions against certain plants and plant products, stated that he felt the important object of his trip had been accomplished. Through conferences with officials and growers in the districts concerned Doctor Marlatt was able to leave the correct impression that the restrictions against imported plants and plant products were put into effect solely for the purpose of preventing the introduction into the United States of new and dangerous plant pests, and that these restrictions had no relation whatever to mere commercial protection.

The subjects of special interest to Doctor Marlatt were, for France, the fruit stock nuresries of the Orleans and Angers districts and the culture of Narcissus bulbs in the Toulon region of south France. In Spain, the special object of his attention was the Almeria grape, which, on account of infestation with the Mediterranean fruit fly—perhaps the most dangerous of all fruit pests—has been barred entry into this country. Because of the bearing which the grape embargo might have upon any reconsideration of commercial treaties with Spain, the Department of State was particularly interested in securing a better understanding on the part of that country of the reasons for the restrictions, and to remove the impression that they were based on trade considerations. Such a visit for inspection and discussion of the subjects concerned was also urged by the diplomatic representatives of France and Spain.

Both as to France and Spain, Doctor Marlatt feels that the trip was well worth while and very successful in establishing contracts, the making of many friends among the officials and growers, and particularly in securing a better appreciation of the need and purpose of the department's plant quarantines and restrictions.

FIGHT CITRUS WHITEFLY WITH PARASITIC FUNGI

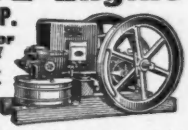
The period of summer rains is the best time during which to introduce the fungous parasites of whiteflies infesting citrus. Cultures of the red aschersonia, and also some of the yellow aschersonia, are now ready for distribution (at cost) by the Entomological Department of the State Plant Board, advises Dr. E. W. Berger, entomologist. These two fungi not infrequently very effectively control both the common whitefly and the cloudy-winged whitefly.

A culture is sufficient for about an acre of trees and consists of the amount of fungus that can conveniently be grown in a pint wide-mouthed bottle. Directions accompany each lot sent out. Avoid the danger of introducing new pests into your grove by employing the pure fungus cultures made by the Plant Board! Besides, a more rapid and uniform distribution of fungus results from using the cultures.

The red aschersonia is an effective parasite of both the common whitefly and the cloudy-winged whitefly, but the yellow aschersonia will thrive only on the latter. It is urged, therefore, that, when requesting fungus, growers send a few dozen leaves collected at random from the worst infested trees for examination, in order that some of the yellow fungus may be included whenever the cloudy-winged whitefly is also present.

The price is 75 cents a culture, cash with order. This price does not include transportation charges. When ordering aschersonia sufficient money to cover postage should be sent otherwise the cultures will be forwarded by express, charges collect.

Continued on page 24

$5 Down Buys Any WITTE Engine
Up to 10 H-P.
The Ideal Engine for FRUIT FARM Use!
Uses Kerosene, Gasoline, Distillate, Gas-Oil or Gas. Equipped with celebrated trouble-proof WICO Magneto, speed and power regulator and throttling governor. Simplest and cheapest to operate.

FREE BIG NEW ENGINE BOOK
Sizes 2 to 25 H-P.—all styles. The one-profit engine. Sold on easy terms direct from factory to you on THIRTY DAYS' FREE TRIAL.
Write for my new illustrated engine book—sent absolutely Free. No obligation to you. Or, if interested, ask for our Log and Tree Saw, 3-in-1 Saw Rig or Pump catalogs.
WITTE ENGINE WORKS
3827 Witte Building, - - KANSAS CITY, MO.
3827 Empire Building, - - PITTSBURGH, PA.

If You Want a
SUPERIOR GROVE
Plant
Superior
Nurseries
Trees
M. J. Daetwyler's
SUPERIOR NURSERIES
Orlando, Fla.

HOTEL HILLSBORO
Tampa, Fla.
TOP O' THE TOWN
European Plan, Fireproof 300 Rooms With Baths
THE CENTER OF TAMPA

NOTES OF THE TRADE

JOHN R. WINSTON JOINS THE PENINSULAR CHEMICAL COMPANY

Recently The Citrus Industry endeavored to interview Mr. John R. Winston who recently joined the Peninsular Chemical Company after many years of service as Pathologist in the U. S. Bureau of Plant Industry. The result of this interview is shown in the following biographical sketch submitted to us by Mr. Winston:

Born January 27th. 1890, Hanover, Virginia.

Raised on a farm and hope to get back to the dirt some day.

University School, Richmond, Virginia.

Graduated Virginia Polytechnic Institue in agriculture, 1911 with degree B. S.

Graduated Pennsylvania State College in pathology and bacteriology with degree of M. S. 1912.

Another year in graduate work in pathology at University of Wisconsin.

Jobs—Assistant pathologist, North Carolina Experiment Station; Fruit pathologist Oregon Experiment Station; Citrus pathologist U. S. Bureau of Plant Industry, 1916-1925.

While the above was the extent of the information vouchsafed by Mr. Winston, The Citrus Industry has been able to secure some further insight into his connection with the Peninsular Chemical Company.

In March 1925 Mr. Winston purchased the stock held by Mr. C. D. Walker, one of the original stockholders of the Peninsular Chemical Company, his connection with the company being the result of mutual investigations. The company felt the need of a man who knew sprays and their uses as well as general horticulture. They needed an expert scientist but also one who was thoroughly practical and their choice fell upon Mr. Winston. After a thorough investigation and careful consideration, Mr. Winston tendered his resignation to the U. S. Bureau of Plant Industry and went with the Peninsular Chemical Company. Mr. Winstons' resignation was accepted by Dr. Waite, Chief of Fruit Disease investigations very reluctantly and with the understanding that he would be on call to assist in the work in Florida with his experience.

While Mr. Winston is no longer with the department of Agriculture, he is still at the service of the growers, just as much as though he was still a member of the Fruit Investigational Staff. Mr. Winston sends out a letter once a month to all interested growers which contains information relative to insects and diseases and their control. This is of much value to growers as Mr. Winston is in constant touch with any new developments.

Mr. Winston was succeeded in the Bureau of Plant Industry by Dr. Wolf a very capable horticulturist and one who is giving to the department and to the growers a most acceptable service.

H. G. GARDNER FORMS NEW CONNECTION

H. G. Gardner who for the past several years has been connected with the Southern Nurseries at Bartow as advisory horticulturist, has accepted a position with the Clermont Hill and Lake Company of Clermont, Florida, as horticulturist. While retaining his position with the Southern Nurseries. Mr. Gardner will move to Clermont in the near future. The grape nursery of the Southern Nurseries also will be moved shortly to Mt. Verde, Florida, near Clermont and a full line of ornamentals will be added.

H. G. Gardner

The Clermont Hill and Lake Company is now engaged in planting the largest acreage in the state and is an important factor in the development of Lake County.

Mr. Gardner has been with the Southern Nurseries at Bartow since the organization of that Company. He has been a resident of Florida for the past five years, having been associated with Dr. P. Phillips at Orlando prior to forming connection with the Southern Nurseries. Mr. Gardner is a native of Edgefield, South Carolina, but spent several years in Georgia before locating in Florida. He is one of the most experienced viticulturists in the state and has travelled over the entire state of Florida checking the different plantings and gaining much experience as to the best varieties to plant on different types of Florida soil.

In forming a connection with the Clermont Hill and Lake Company Mr. Gardner is simply expanding his activities as a horticulturist and placing himself in better position to serve the fruit growers of the state

PROMINENT CITRUS NURSERYMAN DIES

The fruit growing industry lost a prominent member in the recent death of Mr. C. E. Thomas, head, of the C. E. Thomas Nurseries at Tampa who died following an illness of several months.

With the passing of Clinton Eugene Thomas, Tampa and South Florida lost one of its most valuable citizens, one who has labored long and successfully for the upbuilding of his adopted State.

Cultivation and the improvement of fruits and groves was his hobby and as owner and active director of the C. E. Thomas Nurseries, he conducted many experiments with tropical plants.

He introduced avocado growing into this section of the country and accomplished other developments in the fruit industry of Florida. The nurseries which he established at Tampa are among the largest in the State.

Mr. Thomas succeeded in introducing avocados in this climate after much experimenting and work. Oth-

Continued on page 22

ANNUAL FOODSTUFFS EXPORTS HEADED FOR BILLION DOLLAR GOAL

The United States leads the world in the value of foreign trade foodstuffs. Export valuations in 1924 were approximately $990,000,000, representing a fifteen per cent increase over 1923, with prospects of passing beyond the $1,000,000,000 mark this year.

In a publication relating to the foodstuffs export trade of the United States, released recently by the Department of Commerce, it is seen that our steady growth is due principally to larger shipments of cereals, and fresh, dried and canned fruits, together with generally higher export prices.

A gradual change in the trend of demand is brought out in the pamphlet. In prewar, vegetable food products made up 59 per cent of the total exported foodstuffs, whereas in the postwar years, 1920-1924, these products comprised 68 per cent of the total. The relative increase in the exports of cereals and cereal products and the relative decrease in meats and animal fats and oils account largely for this change. Animal fats and oils rank next to cereal products in importance, while meats and meat products occupy third place in the list.

Great Britain purchased 27 per cent of our exports in 1924, amount-to over $270,000,000 in value, and was well ahead of all our other markets. Although Canada was, technically, our second best market, taking foodstuffs valued at over $153,000,000, about 40 per cent of this amount was re-exported, most of it, unquestionably, to the United Kingdom. By virtue of this fact, Germany becomes actually our second market, and is followed in order by the Netherlands, Cuba, Italy, Belgium, France, and Mexico.

Another important phase of our foodstuffs export business covered in detail by the publication, aside from the comparisons between prewar and 1924, is the distribution of the trade in the leading foreign markets, which includes a comprehensive survey of each individual market. In addition, the pamphlet brings out the increased relative importance of cereals and cereal products, canned foods, and fresh fruits in the foodstuffs export trade; the importance of Europe as a market for our foodstuffs; and the increasing exports to North American countries and the Far East.

This Trade Information Bulletin No. 355, was prepared by L. A. Wheeler, Foodstuffs Division, Department of Commerce, and can be secured for ten cents upon application to the Superintendent of Documents, Government Printing Office, Washington, D. C., or any of the district offices of the Bureau of Foreign and Domestic Commerce.

CITRUS-FRUIT GROWING IN COSTA RICA

The outlook for an expansion of the citrus-fruit industry in Costa Rica is not good, states Consul John J. Meily, at Port Limon, Costa Rica, in a report to the Department of Commerce. While soil and climate conditions seem to be well adapted to orange growing, and while both Navel and Valencia varieties thrive, producing fruit of a large size and good flavor, the color is bad and lacks the uniform "orange" shade of the California and Florida fruit. Costa Rica oranges are usually of a yellowish green color, and are "spotty", the fruit having brownish, scaly patches said to be due to a fungus disease.

Lemons, limes, and grapefruit grow rank and coarse; the flesh is inferior in texture and frequently dry and juiceless, with extremely thick rinds. Imported strains seem to degenerate rapidly in quality.

An additional factor operating against the developing of the citrus-fruit is barred from its best market—the United States—because of the fruit industry is that Costa Rican quarantine on citrus fruit due to the presence of the Mexican fruit fly in Costa Rica. The only accessible foreign market available to Costa Rican growers at present is the Panama Canal Zone which, of course, offers an outlet for comparatively little fruit, states Mr. Meily.

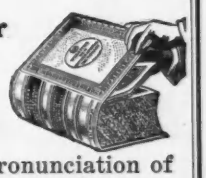
The production of lemon and lime juice, citrate of lime and lemon oil has been discussed as a possibilty but it is not likely that these by products of the citrus industry could be eco-

Continued on page 26

"COULD BETTER FERTILIZER BE MADE WE WOULD MAKE IT"
Get Sept. price list Mixed Fertilizers. "SIMON PURE and GEM BRANDS" now ready. QUALITY first, Fair prices. Also insecticides, sprayers, dusters and dusts. E. O. PAINTER FERTILIZER COMPANY, Jacksonville, Fla.

Free Mailing Lists
Will help you increase sales
Send for FREE catalog giving counts and prices on thousands of classified names of your best prospective customers—National, State and Local—Individuals, Professions, Business Concerns.
99% Guaranteed by refund of 5¢ each
ROSS-Gould Co. 513 N. 10th St. St. Louis

ROLL ROOFING
$1.00 Per Roll
Slate Surfaced $2.00 Per Roll
C. A. RANSOM
527 Concord Ave.
Cambridge, Mass. Dept. M

Whatever Your Question

Be it the pronunciation of **vitamin** or **marquisette** or **soviet,** the spelling of a puzzzling word--the meaning of **overhead, novocaine** etc., this **"Supreme Authority"**
WEBSTER'S NEW INTERNATIONAL DICTIONARY
contains an acurate, final answer, 407,000 Words. 2700 Pages. 6000 Illustrations. Regular and India Paper Editions. Write for specimen pages, prices, etc., FREE Pocket Maps if you name The Citrus Industry.
G. & C. Merriam Co.,
Springfield, Mass.

MONUMENTAL & BUILDING STONE
FROM ALL QUARRIES
TURNER MARBLE & GRANITE CO.
P. O. BOX 54 TAMPA, FLA. Phone 51-126

Jamaican Fruit Exports

"Commercial Intelligence Journal" of Canada, issue of May 30, 1925, has the following to say about Jamaica's export trade in fruits for 1924:

"Before the United States protected her home-grown oranges, Jamaica did a very flourishing business with that country, Canada, and the United Kingdom. Last year Jamaica shipped a total of only 81,527 boxes, practically all of which went to the United Kingdom, with 1,012 boxes to Canada and a couple of hundred to the United States. The reason for the great decline is that Jamaican growers and shippers made no concerted or practical effort to meet the altered conditions in the trade. Having lost their largest market, they failed to keep pace with the requirements and taste of modern consumers and many of the cultivated orange orchards have been converted to other uses or produce what is now practically a wild orange. Anyone who has tasted the succulent sweetness of the Jamaican orange as it appears on the breakfast table here can only regret that the export trade should have so declined.

"In 1924, Jamaica shipped a total of 3,563,519 grapefruit, an increase of 25 per cent over the previous year. Canada and the United Kingdom increased their purchases while those of the United States declined. Canada bought grapefruit to the value of 3,671 English pounds from Jamaica last year, which is about 3 per cent of the value of her total annual consumption. It will be seen therefore that there is scope for the Jamaican shipper in the Canadian market. Experience has indicated, however, that this trade under present conditions is not easy; and some local shippers have lost money in an effort to cut into present channels. A Montreal fruit house describes a recent initial direct shipment to Canada as 'perfect in every way.'"

"There are several other local fruits which might to a much greater extent be imported from Jamaica to Canada. They are pineapples, limes, tangerines, avocado pears, paw-paws, and mangoes. The two last mentioned are not generally known in Canada, but the digestive properties of the former and the wonderful flavor of several of the better varieties of the latter seldom fail to create a demand when their qualities are known."

Hat pins with heads broken off and stuck through candles keep the candles in shape during hot weather, says Miss Bertha Henry, home demonstration agent in Okaloosa County.

Like to have a list of free Experiment Station and Extension publications? Then write to the Agricultural Experiment Station, Gainesville, for Press Bulletin 368.

In building a poultry house, allow from 3½ to 4 square feet of floor space per bird.

Drinking water on the farm is apt to become contaminated by surface water flowing into the well. Keep the water supply pure and uncontaminated and guard the health of the family by a concrete well-curb and platform.

In starting new dairy herds, it is well to make sure that the animals are free of disease. Animals brought in from the older dairying sections of the United States are apt to be affected with tuberculosis or infectious abortion.

Bovine tuberculosis, or tuberculosis of cattle, is transmissible to humans, especially children who drink milk. The tuberculin test will tell with a remarkable degree of accuracy what cows have tubercolosis. Get rid of them.

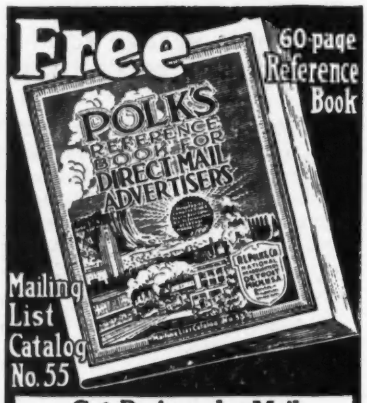
A cotton warehouse man at Sylvester, Ga., was recently convicted of violating the Federal Warehouse Act. Farmers and others who store products in government licensed warehouses may be assured that the provisions of the act will be enforced by the United States Department of Agriculture.

Give the corn weevils a dose of carbon bisulphide and save that corn they would waste for you.

The beef cattle outlook seems to be brighter. This industry has been in the "dumps" long enough.

Up-to-date methods in citrus culture are discussed in Farmers' Bulletin 1447. It is sent free on request to the United States Department of Agriculture.

Like to know about the soils of Florida and their adaptation to different crops? Bulletin 42 tells about them. It is sent free on request to the Director of Agricultural Extension, Gainesville.



Get Business by Mail

60 pages of vital business facts and figures. Who, where and how many your prospects are.
3,000 lines of business covered. Compiled by the Largest Directory Publishers in the world, thru information obtained by actual door-to-door canvass.
Write for your FREE copy.
R. L. POLK & CO., Detroit, Mich.
735 POLK DIRECTORY BLDG.
Branches in principal cities of U. S.

Hunting and Fishing

is a monthly magazine crammed full of hunting, fishing, camping and trapping stories and pictures, valuable information about guns, revolvers, fishing tackle, game law changes, best places to get fish and game, etc. Biggest value ever offered in a sporting magazine. Only $1.00 for THREE WHOLE YEARS, or send 25c in stamps or coin for six months trial.

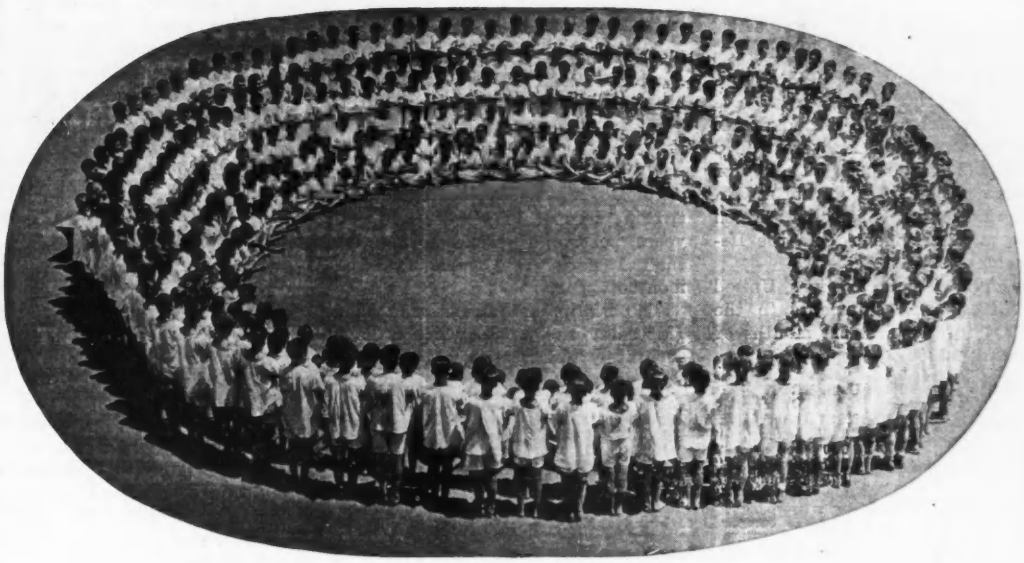
HUNTING & FISHING MAGAZINE
303 Newbury St. Boston, Mass.

Make Furniture At Home

—either for your own pleasure or to sell. It is easy when you have the instructions supplied in Popular Mechanics Home Furniture Making Library. This library consists of the following cloth-bound, profusely illustrated books of which many thousand have been sold to satisfied customers everywhere:
1. Mission Furniture—Part 1
2. Mission Furniture—Part 2
These two practical, money-saving books contain full directions and drawings for the making of all sorts of furniture, including tables, chairs, stools, davenports, electric table lamps, and many other useful and beautiful articles of furniture. Crystal clear instructions in 2 handy books: 240 pages—123 illustrations. Just follow directions and you'll be amazed at your good results. Use the furniture in your own home or sell it. One man writes he sold over $1,000 worth of furniture made from these books. You can do the same.

Send No Money! Just write a postal asking that Popular Mechanics Home Furniture Making Library be sent you C. O. D. When the postman delivers the books, simply hand him $1.98 plus the few cents postage. Money refunded if not delighted.

Address
The Citrus Industry
Tampa, Fla.



Five Hundred Orphan Boys at Antilyas in Syria Symbolizing the Empty Bowl

MORE than 35,000 orphans in Bible Lands will go hungry next year unless you practice the GOLDEN RULE.

President Coolidge is sponsoring International Golden Rule Sunday, December 6th, in their behalf.

On that day, deliberately contrast your lot with that of the long suffering war orphans of the Near East, many of whom have lost every known relative.

Then from your bounty make as liberal provision for their support as you would like to have made for your own if conditions were reversed.

$100.00 a year will feed, clothe and train an orphan for self-support.

Send your contributions to CLEVELAND H. DODGE, Treasurer, Near East Relief, 151 Fifth Avenue, New York City.

REMEMBER

"Whatsoever ye would that men should do unto you, do ye even so unto them"

Fresh Fruit Exports to the Far East

For the first half of 1925 (January to June, inclusive) exports of fresh fruits from the United States to Far Eastern countries were valued at $333,483 as against $524,496 for the same period of 1924, states Mr. D. J. Moriarty, Specialist, Fresh Fruits, in a statement from the Department of Commerce.

The following table gives United States fresh-fruit shipments to the Far East for the first six months of 1924 and 1925:

increased from 15 per cent of the 1924 six-months export value to 18 per cent of the 1925 six-months value; lemons from 12 per cent to 24 per cent; and grapefruit from 1 per cent to 3 per cent—a combined relative increase of 17 per cent. In both years, pears and peaches formed less than 1 per cent of the first six-months exports.

The Philippine Islands and China (including Hongkong, which is listed separately for statistical purposes)

U. S. FRUIT EXPORTS TO FAR EAST

	January - June 1924				January - June 1925			
Oranges	68,003	boxes	Value	$275,102	32,384	boxes	Value	$175,418
Apples	74,243	boxes	"	127,817	22,196	boxes	"	61,128
Lemons	25,320	boxes	"	106,805	14,932	boxes	"	84,873
Grapefruit	3,747	boxes	"	14,411	2,419	boxes	"	10,596
Pears	6,977	pounds	"	592	7,856	pounds	"	832
Peaches	3,300	pounds	"	269	4,805	pounds	"	635

(Note: Some barreled apples were sent to the Far East but the amount was negligible as compared to boxed apples).

Of the 1924 half-year total value of fresh fruit exports, oranges represented 68 per cent, apples 15 per cent, lemons 12 per cent, and grapefruit 1 per cent. For the same period of 1925, oranges amounted to 51 per cent of total value of exports, lemons 24 per cent, apples 18 per cent, and grapefruit 3 per cent. It can, therefore, be seen that there was an increase in the relative percentage of the value of exports of apples, lemons, and grapefruit during the 1925 period. Whereas oranges contributed 68 per cent of the 1924 six-months total value of exports of fresh fruits to the Far East, they represented but 51 per cent of the 1925 value—a relative drop of 17 per cent. On the other hand, apples were our best fresh-fruit markets in the Far East in the first half of 1924 and 1925, taking most of our apples, pears, grapefruit, lemons, and oranges. Japan, Australia, and New Zealand were among our customers for grapefruit in 1924, and the Straits Settlements in 1925. We also sold Japan some lemons in both years. We also shipped oranges to Japan, Australia, and New Zealand in 1924 while Japan took fair amounts from us in 1925. Most of our peaches went to the Philippines.

Among the lesser purchasers of our fruits, we find French Oceania, Palestine and Syria, British India, Russia in Asia, Java and Madura, Siam, Ceylon, Chosen, Kwantung, leased territory, and British Oceania.

POWER DUSTING GIVES GOOD CONTROL OF CITRUS APHIS

Recent work in various parts of the state with dusting citrus trees for the citrus aphis has shown that where the aphids are so widespread as to make treatment necessary over a considerable portion of a grove, or of a majority of the trees, dusting with nicotine sulphate with a power duster is the most thorough method. The only dust recommended by entomologists of the Florida Experiment Station is a 3 percent nicotine sulphate-lime dust. A quiet is necessary for this dusting to be effective and economical.

In order to secure the necessary quiet atmosphere, much of the dusting has been done at night, and under these conditions in many groves practically 100 percent kill was obtained. In some cases a 90 percent kill was obtained as much as 10 rows away from the trees dusted, due to the drifting of the cloud of dust. Dusting at night is not necessary, however, if one can obtain the essential atmosphere at other times.

In many communities the infestation has not yet become so general as to make dusting with a power duster necessary. In such cases growers are urged to continue spot dusting with the nicotine sulphate dust. But in order to be effective this dusting must be very thoroughly done. It must be done by daylight and by those who have good eyesight. Spot dusting groves at night has not been a success.

It is not necessary to use much material in this spot dusting, but every infested twig must be covered. For small trees 5 feet high or less a crank type of duster throwing a continuous stream of dust is somewhat better than the bellows type, provided it throws the dust with sufficient force. Trees higher than this cannot be reached by this type of duster, and for them the bellows type of duster is better.

On very young trees the most effective means of control has been found to be dipping the infested branches in a bucket containing water in which has been placed a teaspoonful of nicotine sulphate and about an eighth of a bar of soap for each gallon of water. Twigs which can be bent over can be immersed in this solution and 100 percent kill obtained.

Another very thorough way to deal with aphids on small trees is by fumigation. For this purpose a tent should be used which can be quickly placed over a tree. The most handy is a tent stretched on a light framework of gas pipe. The tent should be semi-circular in outline and should be open on one side with a flap which can be quickly drawn over the opening. For this fumigation the best material seems to be calcium cyanide dust. If the tent is left over the tree for a few minutes 100 per cent kill is obtained. Three or four puffs from a bellows type of duster is sufficient.

NOTES OF THE TRADE

Continued from page 18

er fruit farmers told him his efforts would all be to no avail. Avocados had never been known to grow this far north.

After several attempts Mr. Thomas created a variety of avocados adapted to the climate in this section and stocked virtually all of the early avocado groves.

Mr. Thomas organized the North Tampa Land Company and was president of the firm. He was active in real estate operations as manager of the company until he was stricken by illness about eight months ago and forced to retire.

When bees want to conserve their winter store of feed, they get rid of the drones. The farmer should get rid of the drones in his dairy herd and the poultry flock and save feed.

Hog raisers interested in showing their stock at the fairs should write to the United States Department of Agriculture for Farmers' Bulletin 1445 of fitting, showing and judging hogs.

UP-TO-DATE METHODS IN CITRUS CULTURE DISCUSSED IN BULLETIN

A great diversity of opinion exists among citrus fruit growers in the United States, says the United States Department of Agriculture, concerning the most successful methods of conducting some of the fundamental practices of the business. For that reason public agencies and many growers are engaged in investigations of various citrus problems, and improved methods are continually being developed as a result of this experimental work.

Various phases of some of these improved practices have been discussed in the horticultural press and announced through bulletins or at meetings of fruit growers. In an effort to supply up-to-date information adequately and concisely, the United States Department of Agriculture has published Farmer's Bulletin No. 1447 which will be of value to the established grower and newcomer alike in furnishing reliable information as to the most dependable methods to be followed in caring for an orchard.

Citrus growing in the Southwest, far from the market centers, is a specialized complex business in which the operator, to be successful, must have foresight, abundant energy, and a belief in his work. To these he must add a personal interest and constant attention to details. Growers who neglect their orchards learn that they are operating at a loss, but those who give sufficient food, water, and work have reason to expect balances to be on the right side of the ledger, says the department.

The recent rapid growth and success of the industry has been made possible by the utilization of the results of scientific research along many lines. New methods in propagation, orchard development, frost protection, pest control, and handling and transporting the crop have been originated and introduced, which have not only made possible the profitable production and marketing of citrus fruits in the Southwest, but have also been found fundamentally important in the production and marketing of other fruit crops throughout the country.

A copy of the bulletin may be secured free of charge, as long as the supply lasts, by writing to the United States Department of Agriculture, Washington, D. C.

When writing advertisers please mention The Citrus Industry.

Acreage Townsites
Lots Homes

IF YOU ARE LOOKING
FOR A DEAL IN LAND
LET US LAND THE DEAL

HENDRY-BOWDEN REAL ESTATE CO.
Broadway Entrance P. O. Arcade
Fort Myers, Fla.

6 facts
and the Banana Industry

1. The banana plant bears in 9 to 12 months.
2. Bananas mature each month in the year.
3. Each "hill" will bear from 4 to 8 "stems" at the end of the second year.
4. Bananas are planted 400 bulbs to the acre.
5. Bunches weigh from 40 to 100 pounds each.
6. Bananas sell at wholesale from 6c to 8c per Pound.

Just combine these facts on your notepad and convince yourself. Isn't it worth knowing more about? We will gladly mail you our illustrated booklet on Growing Cavendish Bananas in Peace Valley. Just return the coupon.

Taylor-Alexander Properties
INCORPORATED
"Florida's Original Banana Plantation Developers"
WINTER HAVEN FLORIDA

Name _____
Address _____ C.I.10-25

CHINCH BUG CONTROL ON ST. AUGUSTINE GRASS

Continued from page 10

chinch bug cannot be depended upon to hold it in check, it is obvious that those who wish to keep their lawns in flourishing condition must use artificial control measures to prevent injury by this pest.

The writer's introductory experiments in chinch bug control were conducted with the use of nicotine sulphate or tobacco dust, and also the introduction of tobacco stems to the lawn. Nicotine sulphate spray was applied at the rate of one part to 800 parts of water. In most cases these experiments were not found very effective because of the peculiar nature of the insect's feeding habits upon the grass attacked, as mentioned elsewhere in this paper.

The most effective results in control were obtained by the use of calcium cyanide, a newly produced chemical which as shown from the writer's experiments, is about half as strong as sodium cyanide, a material which must be used in enclosures, such as the fumigation of greenhouses, flour mills, or tented fruit trees. The action of this chemical when applied under normal conditions of humidity and temperature, or when applied to moist soil, is the liberation of hydrocyanic acid gas in such quantities as to destroy all insects and rodents, the period required depending on temperature and moisture.

A series of experiments were conducted with calcium cyanide by sowing the dust broadcast over the lawn. Calcium Cyanide is manufactured in three forms: Flakes, granules and powdered or dust. All of these forms were used in the experiments, but the most effective results were obtained by the use of the dust. This was sown broadcast over the lawn. Different applications were made, ranging at the rate of from 60 pounds to 200 pounds per acre. The dust was applied in the heat of the day when the lawns were perfectly dry. An inspection from 12 to 24 hours after the application of the dust showed that the most effective results were produced by the application of the dust at the rate of 150 pounds per acre. In most cases where more than 150 pounds per acre was applied uniformly over the lawn injury by burning was experienced. The best safeguard found by the writers was the use of a little lighter application and a repetition of the experiment in about five days.

Methods of Applying The Dust

The methods used in applying the dust with most satisfactory results were first, by means of the fan or blower duster. The bellows duster was not found to be so satisfactory because of its intermittent flow of dust. Another method which was found quite satisfactory was the use of a large can or bucket with a closely fitting cover which was punctured with a 6 or 8 penny nail to form a sifter top. By this ingenious device the dust can be sifted uniformly over the lawn. Under favorable conditions the most effective killing results were from 80 to 95 per cent. of the chinch bugs.

The dust should be applied when there is as little wind as possible during the heat of the day, and the operator should be careful not to get his head directly over the container, or to breathe in the dust or fumes from the freshly opened cans. Where this precaution is observed there is very little danger. If one stands on the windward side of the container there is no danger in handling the material in the open air.

Calcium Cyanide

Calcium Cyanide is a substance having somewhat the appearance of slate. When exposed to the moisture in the air it gives off hydrocyanic acid gas, and where sufficient quantities are applied it is deadly to all forms of plant and animal life. When Calcium Cyanide is applied to a lawn there is no danger of the fumes of the hydrocyanic acid gas rising in sufficient quantities to be injurious to human life since it has about the same density as air.

Whenever the application of Calcium Cyanide is completed, the duster or sifter used should be thoroly cleaned, as when Calcium Cyanide unites with the moisture in the air a reaction takes place which corrodes the metal portion of the sifter or duster, and either affects the efficiency of their working or destroys entirely by eating holes in the metal.

FIGHTING CITRUS WHITE FLY WITH PARASITIC FUNGI

Continued from page 17

All remittances should be made to the State Plant Board and correspondence addressed to the Entomological Department, State Plant Board, Gainesville, Fla. Requests for one to four cultures will be sent by parcel post. Requests for five or more will be forwarded by express, collect.

Shipping weights: One culture, 2 pounds; 2 cultures, 4 pounds; 3 cultures, 5 pounds; 4 cultures, 6 pounds.

Further information can be obtainer by addressing the Entomological Department of the State Plant Board, Gainesville, Fla., or by consulting your county agent or the Plant Board inspectors.

Give the child a place to romp and a chance to let off steam— and he will not be so apt to be constantly doing what he ought not to.

While the corn crib is about empty, why not make it rat-proof before this year's crop is harvested? Rats are expensive free boarders, and the stock on the place need that corn.

Allen Picking Bags

Are the Most Economical for the Handling of Citrus Fruit

No Drop

No Bruise

This Means More Money for Your Oranges

For Sale By

Exchange Supply Company Tampa
Standard Growers Exchange Orlando
Chase & Company Sanford
American Fruit Growers Orlando
I. W. Phillips & Co. Tampa

ALLEN PICKING BAG COMPANY

Orlando, Florida

N. D. Suttles & Co.

140 Main Street

Fort Myers Florida

CHARLES W, ROSS, Manager

Our Interest is FLORIDA REAL ESTATE.
We cannot maintain that interest without the confidence of our Clients
We cannot have that confidence unless our negotiations are honestly conducted
We guage our advice to you by our willingness to follow it ourselves

OUR SERVICE COVERS EVERYTHING IN REAL ESTATE

Offices at:
Jacksonville, Tallahassee, Daytona, West Palm Beach

Come On Down Below the Frost Line

We can show you ONE acre or ONE HUNDRED THOUSAND acres at prices attractive to you—and will deliver that which we show.

We have the facilities to procure for you

A lot for a smart bungalow
A water frontage for a grand home
A logical business property
A most favorable apartment site
A quick selling subdivision

Seminole Realty Co., Inc.

Realtors

Fort Myers, Fla. — The City of Palms

We are as busy keeping up our stock

as the average fruit grower is keeping the real estate people from making a subdivision of his grove.

The New Fall Lines are possibly the greatest showing we have ever made. Some of the nationally featured lines are Society Brand Clothing, Knox and Stetson Hats, Manhattan Shirts, Hanan & Son's Fine Shoes.

Mail us your wants.

We pay express charges.

Henry Giddens Clo. Co.

Tampa, Fla.

Florida Fruits and Flowers

A Monthly Magazine devoted to diversification in fruit growing and to home and civic ornamentation.

The kind of a magazine you will enjoy in your home. It tells of the different kinds of fruits which can be successfully grown in Florida and it aids with helpful suggestions about ornamentals and flowers for your home or community.

FLORIDA FRUITS AND FLOWERS costs but $1.00 for twelve months. Pin a check or a dollar to this notice and mail to

Florida Fruits and Flowers

Bartow, Fla.

Belfast As a Frest Fruit Distributing Center

Prior to 1919, all importations of fresh fruits into Northern Ireland were through the ports of Liverpool and Glasgow, the principal centers supplying the Belfast district, states Mr. R. H. Brooks, American Vice-Consul, at Belfast, Ireland, in a report received in the Department of Commerce.

In 1919, a brokerage firm, reported to be connected with an Hull (England) house, opened an office in Belfast and almost immediate success atended their efforts to dispose of imported fruit direct to Belfast wholesalers. Recently, large Belfast firm entered the brokerage business, carrying it on in connection with their wholesale trade; and large and commodious auction rooms have been erected. Others are also endeavoring in a small way to import on a commission basis, and it is reported, adds Mr. Brooks, that before the end of 1925 there will be several more large dealers acting as brokers.

The trade has consisted largely of oranges but since 1923 there has been a steady increase in the amount of apples imported from the United States and from Canada. This movement met with much opposition on the part of Liverpool and Glasgow commission men, who foresee the distributing trade of Ireland concentrated in Belfast—for Northern Ireland—and in Dublin—for the Irish Free State. There still exists difficulty in obtaining direct shipments of apples from the United States. Belfast importers state that the most desirable importing route is from Halifax, Nova Scotia, direct. The service is maintained by Head Line steamers, and furnishes a quick and certain transit from Halifax.

The statement given below was issued by the principal brokerage firm of Belfast and shows the amounts of fresh fruits imported by this concern from November, 1919, the date of first importations, until June, 1923.

(Cases of)	Oranges	Grapes	Melons	Apples	Pears
July 1922 - June 1923	117,106	11,349	5,728	5,043	17,177
July 1921 - June 1922	94,846	10,274	2,362	40	962
July 1920 - June 1921	61,844	1,681	883	349	—
July 1919 - June 1920	34,869	5,660	—	1,333	—

Another large Belfast firm recently entered in the brokerage business reports that it imported 2,788 barrels and 11,853 cases of apples from the United States and Canada during the season 1923-1924, and that in the season of 1924-1925 to March 31st it has received 3,587 barrels and 9,339 cases.

Official statistics of the Belfast Board of Harbour Commissioners for 1922, 1923, and 1924, given below, show increases of direct importations. The figures under columns "Foreign" represent direct imports while figures under columns "Coastwise" are for shipments by way of England and Scotland. The quantities are given in long tons.

	1922		1923		1924	
	Foreign	Coastwise	Foreign	Coastwise	Foreign	Coastwise
Apples and pears	1,378	4,682	1,680	6,050	3,283	6,963
Grapes	190	411	431	339	552	292
Lemons	8	398	22	498	271	489
Oranges	3,833	2,299	4,569	2,513	2,990	3,701
Total	5,409	7,790	6,702	9,400	7,066	11,445

Interested concerns, listed on the Exporters' Index of the Bureau of Foreign and Domestic Commerce, may secure a list of the principal brokers and wholesalers in fresh fruits in Belfast by writing to the Commercial Intelligence Division, Bureau of Foreign and Domestic Commerce, Washington, D. C. or by consulting the Bureau's District Office in their city, if any. Mr. Brooks states that nearly all of the Belfast concerns on such list are willing to consider either agency or purchase offers from American growers of fresh fruits.

CITRUS FRUIT GROWING IN COSTA RICA

Continued from page 19

nomically produced in Costa Rica because of comparatively high labor cost.

The following table indicates citrus-fruit shipments to the United States from Costa Rica for the period 1921-1924

	Oranges	Limes	G'fruit	T'rines
1921	1,546	212	392	.....
1922	3,113	506	489	7
1923	519	630	213	13
1924	.....	.....	.....	.....

Mr. Meily adds that statistics covering citrus-fruit shipments to the Panama Canal Zone are not available but up to 1924 they fell considerably below the volume of the shipments to the United States. Grapefruit formerly going to the United States is now being shipped to England but high freight rates make it unlikely that this market (England) will prove profitable.

When writing advertisers please mention The Citrus Industry.

More than 550,000 farms in the United States are now equipped with radio receiving sets, according to a survey by the United States Department of Agriculture. This is an increase of nearly 100,000 sets in a year. Florida farms have 300 of these.

THE ANGEBILT
Orlando's Most Distinctive Hotel
Fireproof—Every room with private bath—Fireproof
Excellent Dining Room Service 10th Floor
"The Height of Hospitality"
Orlando, Florida.
Arthur F. Landstreet, Manager

Citrus Growers Use

NICHOLS
TRIANGLE BRAND
BLUESTONE

(Copper Sulphate)

To stop the splitting of fruit caused by Dieback and Ammoniation

The use of Triangle Brand Bluestone will insure you against loss in your grove operations. It is the quality standard and generally used by Citrus growers and Truckers for Dieback control and the preparation of home made Bordeaux Mixtures for spraying purposes.

Insist on NICHOLS TRIANGLE BRAND and assure yourself of the best.

NICHOLS COPPER CO.

25 Broad St. New York

THE IMPROVED
LIGHT PLANT
Built by

W
WESTINGHOUSE ELECTRIC

Westinghouse

Electric-Automatic
Refrigerators
and Pumps

Tampa Auto Electric Company

Charles Greene Mgr.
1717 Franklin St.,
Tampa, Fla.

A Million Citrus Trees

At Wholesale and Retail

Now is the time to plant citrus trees. Our citrus stock is the most complete and best we have ever grown. More than four hundred thousand budded trees ready for delivery. All sizes and all standard varieties. In oranges we have the Pineapple, Valencia, Parson Brown, Lue Gim Gong and Hommosassa. We also have Tangerines, Lemons, Limes and Kumquats. In Grapefruit we have the Walters Early, the Excelsior Late, Marsh Seedless and the Fosters Pink Meat.

WE WILL SELL YOU TREES AT WHOLESALE PRICES

Our regular prices are as low or lower than any other first class Nursery, but if you are in the market for any extra large quantity such as one thousand to ten thousand, we will make you very SPECIAL PRICES.

Big Money In Blackberries

The Florida Marvel Blackberry has proven itself as being the best money producing fruit in Florida. It is truly a Marvel Berry and seems especially adapted to Florida soil. It is very prolific and the demand is and will stay far ahead of the supply. Test shipments made to the north in "Pony" Refrigerators have proven without question that the North will buy the "Florida Marvel Blackberries." In the shipments that were made last year, they averaged not over twenty-five cents per quart and some of the shipments brought as high as thirty and thirty-five cent each. One of the leading blackberry growers near Oldsmar, Florida, told us some time ago that from less than one-half of an acre he sold twenty-five hundred quarts of berries at thirty-eight cents per quart. The main reason he got such a fancy price was on account of being on Memorial Highway and sold to people passing by. Other growers told us that they had about the same results as above and averaged over thirty cents per quart on the home market. We have in our own grove nearly ten acres planted in field form and we expect to plant at least another ten acres this winter. Every citrus grower, and everyone with surplus land should plant from one to five acres, of blackberries, and if they do, it will give them wonderful profit. Just think of a crop in Florida that is absolutely sure and not in danger from frosts or pests.

JAPANESE PERSIMMONS

The Japanese Persimmon is one of the most profitable fruits grown in Florida. They are very easy to grow, are not subject to injury by the cold and they are very prolific bearers. This fruit is in great demand in the Northern markets at fancy prices. We have grown and have ready for sale, about five thousand of the Tane-Naahi variety. This is a very handsome fruit of very superior quality and is the only Persimmon that can grow without other varieties for cross pollination. The wild persimmon is natural to Florida and the budded persimmon can be raised on almost any kind of land.

OUR AVOCADO STOCK IS COMPLETE

We can furnish you the Fuerte, Gootfried, San Sebastain, Pueblo and Northrop varieties, such as the Colinson, Linda, Spinks, Taylor, Nimlich, Panchoy and the Ward. The Ward is a new hardy variety. It is a cross between the Guatemalan and the Mexican and in California has shown wonderful results. The tree is said to be almost as hardy as the hardy Mexican varieties. It is a very fast growing tree and a prolific bearer. We have a few hundred of these trees which we are offering at two dollars each. We look to see this one of the best varieties that has ever been propagated. Our Fuerte budwood is the same strain as the wonderful Fuerte tree Near Blanton. Many of our Fuerte trees have shown the same results as that this year. The budwood came from California and the grower who sent it wrote us that no tree from which this budwood had been cut had produced less than one hundred and fifty dollars the previous year and many trees as high as three hundred dollars per tree.

AGENTS WANTED IN EVERY LOCALITY

Put Your Proposition Squarely Before Us

Write For Special Prices

If you are at all interested in planting a citrus grove, adding to your present grove, or in setting out acreage to any of the fruits mentioned above, it will pay you to write us. Tell us your circumstances and we will endeavor to assist you. By all means be sure to get our prices before buying anything in the way of nursery stock.

The C. E. Thomas Nurseries

Bruen-Webb Bldg. Phone 3692

404½ Zack St., TAMPA, FLA.

CITRUS COMMENTS

Continued from page 7

plication can have most of the ammonia derived from inorganic sources. Under average conditions the analysis best suited to use on normal trees at this time of the year would be 2 per cent to 3 per cent ammonia, at least 8 per cent phosphoric acid, and 6 per cent to 10 per cent potash. In bearing groves the fertilizer should be spread evenly and broadcast. This is a very important thing to keep in mind in maintaining a grove in normal condition.

The Freight Situation

There has been so much delay in freight shipments that it will pay all growers to bear this in mind and get your fertilizer ordered early. Then if you have a place to store it till you wish to use it have the shipment started early so that you will be sure to have it in November when a large part of the fertilizing should be done.

Testing Citrus Fruit

The methods used in the actual testing operations are not very complicated and require only care in following the printed instructions. The new sliding scale system will call for a little more care in determining the final results. The official testing in the packing houses according to late reports will start with the smallest sizes in the bins. If they do put pass the next bin will be tested and so on till one is found that will pass. Then a composite test of all the remaining bins will be made. If they pass they will be allowed to be shipped but the fruit that did not pass the test will have to be destroyed. This adds a new problem to the shipment of early fruit. However, the law has as its aim the prevention of the shipping of immature citrus fruit.

All packing houses should make tests carefully of all the crops which it is planned to ship early in the season. There are some things not printed in the testing directions that increase the accuracy and value of the results as obtained by the packing house manager. Mr. G. S. Hall, Mgr., of the South Lake Apopka Citrus Growers Association has worked out several points that make his records more valuable. He tests the first and last load coming in from a grove and has found that these tests do not always agree with the field test made before picking started. This calls for special care in taking the field sample. The fruit from the top of the tree does not always test the same as that from the lower branches and this may account for the fact that the load tests as a rule are lower than the field tests. Quite often the various sizes of fruit from the same bloom show a variation in the test.

One thing that increases the value of Mr. Hall's records is that he keeps them in a book from year to year. His records go back for several years, and have been started the 22nd of Sept. each year. Often growers say that their grove is the earliest in their section every year. Mr. Hall in his record book shows this is not always the case, they vary from year to year. One very interesting comparison has shown up. An old Parson Brown grove tested 6.09 on the 22nd of Sept. 1923. On the same date 1924 tested 6.04 and on the same date 1925 tested 9.40. A block of young Parson Browns in the same grove tested 9.26 in 1923. On the same date 1924 tested 8.50 and on Sept. 22nd 1925 tested 5.49. This shows the necessity of testing every grove each year and also of keeping records. One point that Mr. Hall emphasized, and other managers agreed, was that a rain following a dry period will change the test of the fruit in a short time. This will need to be kept in mind this season.

7,305,672 ORANGE BEARING TREES NOW IN STATE

Continued from page 9

fruit, 1,095 and 14,881.

Sumter, oranges, 23,472 and 82,-348; lemons, 225 and 250; grapefruit, 659 and 1,010.

Suwanee, oranges, 4,137 and 527; lemons, 11 and 8; grapefruit 64 and 217.

Taylor, oranges, 862 and 548; lemons, 13 and 6; grapefruit, 34 and 26.

Union, oranges, 150 and 115; lemons, 1 and 1; grapefruit, 131 and 101.

Volusia, oranges, 263,185 and 423,714; lemons, 178 and 5,063; grapefruit, 1,749 and 54,673.

Wakulla, none.

Walton, oranges, 26,074 and 167; lemons, 419 and 4; grapefruit, 386 and 25.

Washington, oranges, 9,729 and 199; lemons, 20 and 1; grapefruit, 285 and 48.

The figures are preliminary, and subject to correction, the department report states.

An annual health examination for every member of the family may save many doctor bills and serious consequences later on. The family doctor can often detect and remedy a defect in its early stages that will be uncontrollable later on.

When writing advertisers please mention The Citrus Industry.

ONE
of
our
STANDARDS
GETTING the GOODWILL
of
the
Grower
Orange Belt Brands
Will
Keep
It
LYONS FERTILIZER CO
ORANGE BELT BRANDS
TAMPA, FLORIDA
Quality Fertilizer
for
Quality Fruit

Melanose and Rust Mite Losses Great

That melanose and rust mites take a tremendous toll of the Florida citrus crop each pear is forcibly brought out by some figures recently compiled by E. F. DeBusk, who, by the way, is not a statistician, but is pathologist and entomologist of the Florida agricultural extension service. This annual loss can be greatly reduced and largely eliminated by the use of proper control measures against these pests.

Melanose and rust mites cause a russeting of the fruit which results in a much lower price on the market. Fruit produced and kept free from these pests sells as bright and fancy, and brings a "bright and fancy" price. Mr. DeBusk finds that the 1923-24 crop of 20,000,000 boxes graded about as follows Bright and fancy, 20 percent or 4,000,000 boxes; golden 45 percent or 9,000,000 boxes; russet and plain, 35 percent or 7,000,000 boxes. Thus it is seen that only 20 percent of the total crop was in condition to be sold at highest prices.

Mr. DeBusk says that in a survey of 32 representative packing houses throughout six of the leading citrus producing counties, in which the russet and golden fruit was classified as to causal agent or factor, 59 percent of the golden and 61 percent of all russets and plains were found to be due to melanose, while 35 percent of both classes were due to rust mite injury.

If this condition is average for the entire state, Mr. DeBusk finds that with goldens selling at a handicap of 30 cents per box and russets and plains bringing 70 cents a box less than brights, melanose losses would be about as follows: In russet fruit, 4,270,000 boxes at 70 cents, $2,989,000; in golden fruit, 5,310,000 boxes at 30 cents, $1,593,000; invested in spraying and pruning, $318,000; stem-end decay, $500,000; sizes and cull fruit, $100,000; approximate total losses due to melanose, $5,500,000.

The figures for rust mites show a similar loss, only slightly smaller: In russet fruit, 2,450,000 boxes at 70 cents $1,715,000; in golden fruit, 3,150,000 boxes at 30 cents, $945,000; invested in spraying and dusting, $400,000; in size and maturity of fruit, $100,000; approximate total, $3,160,000.

The total loss due to both melanose and rust mites is $8,660,000.

"Of course it would be a very expensive process to completely eliminate all losses due to these pests," says Mr. DeBusk, "but it would seem that the loss could be materially and profitably reduced by control measures. An investment of a few cents a box in Bordeaux-oil for melanose and sulphur dust or spray for rust mites should return a handsome profit."

Ants prepare ahead of time for winter. However, ants don't work for man and have no right to expect man to prepare for them. Cows work for man and have a right to expect him to furnish good feed for them during the winter. Cover crops help.

A cover crop such as oats or rye throws a network of roots through the soil and holds the fertility and humus. Plant food that would otherwise be leached or washed away will be taken up by the plants and stored.

When writing advertisers please mention The Citrus Industry.

Homes

Home Sites

Business Lots

ONLY THE HIGHLY DEVELOPED PROPERTIES

WE CAN DELIVER WHAT WE OFFER

Johnson-Powell Realty Company

Box 1836 114 Hendry St. Phone 489

Fort Myers, Fla.

CITRUS AND OTHER CROPS IN LEE COUNTY

Continued from page 6

looking for more protected locations. It was found that the freeze caused very little damage to the citrus trees in Lee county. This gave quite an impetus to the extension of citrus plantings in this section and a number of new groves were planted in the four or five years following. The budded varieties of oranges were then introduced and these plantings were largely of pineapple and Valencia oranges. Groves begun to appear around Alva, along the Caloosahatchee river to Ft. Myers, along the Orange river near Buckingham, at Estero and Bonita Springs.

About the year 1900 and following, grapefruit begun to command the attention of the buying public and the enormous prices paid for the fruit stimulated a craze for planting or working over old groves into this variety all over the State. Lee county was similarly affected and many acres were planted to grapefruit during the years that followed. The following story told of Mr. Flowerree illustrates the enthusiasm for planting and speaks well of the quality of this fruit at that time. Mr. D. A. G Flowerree, a wealthy western ranchman, was in the habit of spending his winters in Ft. Myers for the hunting and fishing. Mr. Flowerree was for a long time little interested in the grapefruit or its qualities and could not be induced to eat it. The lady with whom he boarded finally prevailed upon him to try a grapefruit for his breakfast one morning. He liked the fruit so well that he immediately decided to plant out a grove, which he did. When his plantings were finally finished he had planted about 400 acres in the vicinity of Alva and about 200 acres at Estero. This was about the year of 1900 and the two or three years following. Mr. Flowerree had set the pace and others quickly followed. About this same time the Murphy grove at Buckingham of 150 acres was planted, and various other smaller groves in the vicinity of Ft. Myers, along the Caloosahatchee river, and in the viciinty of Estero and Bonita Springs. The grapefruit industry had given a decided start and continued to expand. Grapefruit groves were planted on Pine Island and many other parts of the county. In 1915 the acreage was further supplemented by the planting of an 800 acre tract about two miles south of Ft. Myers. This large grove is made up of units of 5, 10, 20 and 40 acres, owned chiefly by northern people. The Ft. Myers Grove Company cares for and operates this grove as a single unit for the absentee owners and they have made a remarkable success in developing this property.

During the past five or six years very little citrus has been planted in the county and the tendency is to plant oranges rather than grapefruit. Our present acreage is not large, somewhere in the neighborhood of 7000 acres of bearing trees, and probably 80 per cent of these are grapefruit trees. A part of this acreage will soon be lost to production, especially in the vicinity of Ft. Myers, due to the rapid development and extension of the city. Sub-divisions have already invaded some of the best groves near the city, and others will be taken over later on. However there is still room for the expansion of our citrus industry and it will expand as our city and towns develop. There will always be a demand for a fine quality of fruit and in localities where this grade of fruit can be produced a permanent citrus industry will survive.

In addition to citrus fruits there are other important crops that make up the agriculture of the county. The mango is a promising fruit though little cultivated at the present time. Seedling mango trees grow well here and the mild climate affords ample protection for this excellent tropical fruit. That it has wide commercial possibilities in this section is beyond question and when the more promising commercial varieties become better established there will doubtless be large plantings of this fruit in many sections of the county.

The growing of winter vegetable crops is another important phase of our agriculture and the Iona section in the vicinity of Ft. Myers has become noted for the volume and quality of the peppers it produces. This section is provided with ample drainage, it is irrigated by flowing wells and the soil is well suited for truck crop production. Here crops of peppers, eggplants, tomatoes, cucumbers and other crops return good profits since they are grown at a time when there is little competition from other sections. One forty acre tract of trucking land in the vicinity of Ft. Myers has a record of producing $30,000.00 worth of peppers during a single season and other smaller acreages have shown returns of two thousand dollars per acre from vegetable crops alone. This is not the general average of returns by any means as these figures represent the high peak in production and prices, but it shows what can be done with the land under favorable circumstances.

Lee County is primarily an agri-

Continued on page 34

GROWERS
AND
SHIPPERS
SUPPLIES

Our Large Stocks
Are Your Shock Absorbers
When Railroad Embargos
Come
Call on Us For Your
Packing House Supplies
Nails, Box Strapping,
Paper, Paste, Ladders, Clippers, Carriers, etc.

Also Headquarters For
Bluestone, Sulphur and all
Insecticides

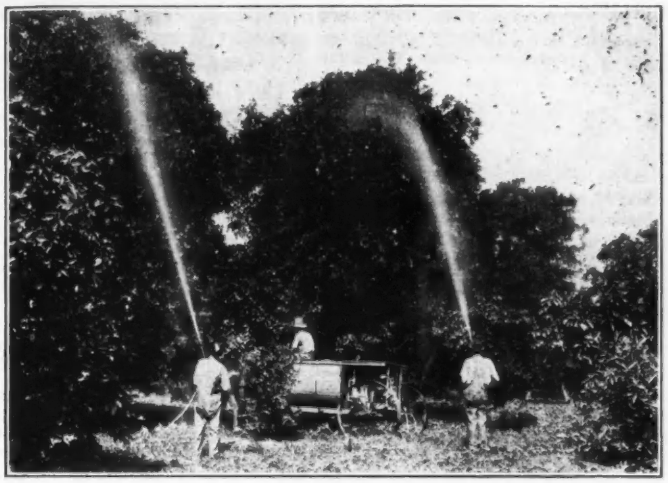
FERTILIZERS
AND
FERTILIZER
MATERIALS

DRAIN TILE

Ask For Our Complete
Price List

CHASE & CO.
Sanford - Florida

"Everything Needed for Spraying and Dusting"



The picture at the left shows Schnarrs Economy Standard Sprayer in operation—a powerful two-gun machine having remarkable economy in operation. Especially built for grove spraying.

The Certainty of Better Spraying

Schnarrs Standard Spray Formula is the superior oil Emulsion for the Fall clean-up of White Fly and scales. Let us tell you of the better results users are getting, and quote you price on your requirements.

Assurance of satisfaction in spraying comes from the use of materials that have an established reputation as a result of long service under practical conditions. The outstanding merit of Schnarrs Products for the control of insects and diseases in groves and on truck farms, is widely known.

Upon these Products thousands of grove owners and vegetable growers have for years put complete dependence for profit-making results.

There is a Schnarr Product for every spraying and dusting purpose. Each is the result of specialized study of individual need, to develope just the right material and machine for the work.

Their superiority is the outcome of fifteen years of practical experience and unequalled manufacturing facilities. Use them for your spraying and dusting work and be certain of obtaining satisfactory pest-control at the lowest possible cost.

A copy of our catalog containing descriptions of our spraying and dusting materials and machines will be sent on request.

FLORIDA'S STANDARD OLDEST LINE OF SPRAYS
SCHNARRS SPRAY FORMULA
LIME SULPHUR SOLUTION
BORDO
MULSION
SCHNARRS
Hand & Power Sprayers
Insecticide Materials
Accessories etc
J. SCHNARR & CO. ORLANDO FLA.

J. Schnarr & Company

Orlando, Fla. **Winter Haven, Fla.**

"Everything Needed for Spraying and Dusting"

An Electric Bug House

By B. S. Havens

The San Joaquin County Insectary, Lodi, Cal., is the first insectary to use electric heat. The practice hitherto has been to use gas or other fuels, with manual temperature control.

This insectary is engaged in research work to determine the possibilities of using the beetle bug, or so-called lady-bug, to rid vineyards of the mealy bug, a pest which is causing much loss. This mealy bug is a small insect which multiplies very rapidly and which thrives on the juices of the young and tender grapevine shoots. The female grows about four or five times larger than the male which it outlives. The bugs are very destructive to the grapevines, as the fluid substance deposited by them on the tender shoots causes mildew and discoloration of the grapes, besides furnishing food for fungus growth.

Beetle bugs, however, live and thrive solely on mealy bugs. Thus, in the process of raising them, it is first necessary to raise mealy bugs to feed and fatten them. For this purpose potatoes are planted in small trays filled with a few inches of soil. Each room contains sufficient trays of potatoes to plant the equivalent of an acre. The rooms are kept dark and held at a constant temperature of 65 degrees F. until the potatoes have sprouted and developed long shoots. The purpose of a dark room is to cause the sprouts to grow long and spongy with a minimum of leaves.

After the sprouts have developed, a few mealy bugs are planted on them. The temperature from then on is maintained constant at 80 degrees F., causing the mealy bugs to multiply very rapidly each hatch producing about 600 eggs which hatch into bugs in about a month. After the mealy bugs have developed, beetle bugs are placed on the sprouts to feed on them.

At present three different species of bettle bugs are being propagated one is imported from Australia and the other two are produced in California. The beetle bugs eat nothing but the mealy bugs. They lay and hatch about 250 eggs at one time, the first hatch taking place in about 12 days, the insect being in the form of an immature worm or larva. The larva then develops into the adult stage. Before the stage of pupation or transformation the beetle bugs crawl from the sprouts to sacks placed immediately behind the trays.

At this stage of the development light is admitted and the insects develop wings, then seeking the light and collecting on the windows. They are gathered from the windows and placed on the infected grapevines, about twelve to each vine, the number varying according to the amount of infection.

The San Joaquin County Insectary has four rooms, each approximately 12 feet long, 6 feet wide and 8 feet high. In each room is installed an Edison Electric Appliance 2,000-kilowatt heater. Temperature is regulated by a CR-2990 thermostat and CR-7002 contactor, both of General Electric manufacture.

SPRAY FOR WHITEFLY

The flight of the fall brood of whitefly is about over. This brood has been rather spotted in its abundance. Many sections of the state report more whitefly than for many years. This is apparently to be correlated with less rainy weather than usual in those sections during the past summer. This climatic condition has prevented the entomogenous fungi, particularly the red aschersonia and the brown fungus, from controlling the summer brood as effectively as usual.

The season for applying the fall spraying for whitefly and scale insects is close at hand, says J. R. Watson, entomologist of the Florida Experiment Station. The earlier this can be done the better, for two reasons. In the first place, the whiteflies are more easily killed in their earlier stages of growth. In the second place, by spraying early one saves the drain on the trees resulting from the feeding of the insects.

Mr. Watson says that most citrus groves need to be sprayed in the fall for these pests. However, it is not safe to spray citrus trees with oil emulsions when the temperature is over 90 degrees or when there is too much young growth on the trees. By the latter half of September or early October the temperautre is usually low enough and the growth hardened up sufficiently to make spraying safe.

Our best spray solutions are oil emulsions. The trees should be sprayed thoroughly, both upper and under parts of all parts of the trees being hit.

The fall spraying for whitefly and purple scale is usually the most important spraying of the season.

When writing advertisers please mention The Citrus Industry.

Longer Years of Service

The price of any sprayer should be based on per year of Service

Consider the Value of Our New

DUST-PROOF HOOD

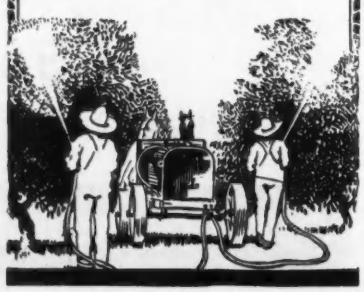
Dust is a great destroyer. Dust competes with rust. Hardie furnishes the greatest protection possible to his sprayer bearings and mechanism. In addition to perfect alignment, the protective housings and micrometer fit, there now comes the last word in protection, the Dust-Proof Hood —made possible by the special cooling system which prevents overheating of the engine. This system includes piping the full length of the spray mixture tank, which insures perfect cooling because of the large amount of liquid spray which is so frequently replenished. This is only one of many exclusive features of

DEPENDABLE HARDIE SPRAYERS

which should interest you — the compact pump in which 90% wear is eliminated, the light weight Cushman engines, the low-down Auto-Plex trucks, and the new Hardie Gun. This gun has proven the sensation of the season. It gives much wider range than any gun heretofore, and gives perfectly even distribution. It makes a mist as fine as does the smallest nozzle, and it throws this mist a greater distance than has ever been accomplished before. Another important item is the quick control—less than a quarter turn for varying from long distance to close up. Send for catalog—learn all about these valuable new Hardie features.

Gulf Fertilizer Co.
Tampa, Florida

DEPENDABLE HARDIE SPRAYERS



Volck gives *results*

Allen & Co., Orlando, manufacturers of the Allen Picking Bag, sprayed a 53-acre grove with VOLCK during the hot weather of June (temperature running as high as 96). A check-up four weeks later showed over 99% kill of Florida Red Scale in all stages: adults, young, and crawlers. There was also a thoro clean-up of purple scale, rust mite, and mealy bugs. And no injury was done to young fruit or tender foliage.

Mr. Z. Spinks of Leesburg sprayed two of his groves with VOLCK in March when the trees were in bloom. Note the results as found in July. A heavy set of almost perfect select fruit. No rust mites or white flies. Very few purple scale. Practically no thrips damage. "Truly remarkable results" says Mr. Spinks.

Mr. E. P. Porcher of Cocoa, grower of Deerfield Brand oranges, used VOLCK on 100 acres, adding Bordeaux on part of the grove for melanose control. The results were strikingly effective.

Mr. Wm. J. Krome of Homestead sprayed a block of avocadoes with VOLCK-Bordeaux combination obtaining a very high kill of Dictyospermum scale and other insects. VOLCK is the first oil spray for citrus work that can be used strong enough to kill the pests without grave danger of serious injury to fruit and foliage.

Mr. Frank Cody of Balsam Park is another grower who reports highly satisfactory results.

Over 100 growers have thus far sprayed more than 1500 acres of citrus and avocadoes in Florida. It has been used at Titusville, Coca, Wabasso, Homestead, Sebring, Frostproof, Baddon Park, Lake Wales, Dundee, Winter Haven, Alturas, Lakeland, Baskell, Palmetto, Sarasota, Clearwater, Brooksville, Orlando, Groveland, Dessburg, Citra, Gainesville, and many other sections, and everywhere growers are enthusiastic over the results.

ORTHO SPRAYS

We will gladly spray a tree for any grower who would like to see what VOLCK will do in his own grove.

CALIFORNIA SPRAY CHEMICAL CO.

807 ORLANDO BANK AND TRUST BUILDING

ORLANDO, FLORIDA

W. W. THOMAS
MANAGER

VOLCK

150-145

—a citrus spray for insect pests

ONE OF OLDEST PRODUCING GROVES IN FLORIDA IS LOCATED NEAR WEWAHITCHKA

One of the oldest producing citrus fruit groves in Florida is situated in Gulf County and adjacent to Franklin County, demonstrating the adaptability of this region to citrus culture of a high order.

The S. S. Alderman grove, known as Lake Grove, is situated on the banks of the Chipola River, and although has experienced several setbacks has been flourishing for the last half century. The grove is near Wewahitchka and protected well from the colder winds that sometimes are experienced here. Wewahitchka also is the home of the Page, and Bryant groves, and of the Chipola Nurseries, where fruit of high grade is produced.

The Alderman Grove, operated by Theo Levins of Wewahitchka, consists of 20 acres, and under favorable conditions will produce as high as 5,000 boxes a season. There are 1.100 trees, including satsumas, which are particularly well-adapted to citrus culture in this region. This grove is situated in the midst of heavy timber, and has experienced a profitable operation the last 20 years. It was killed down in 1898 by a freeze.

In cultivating for citrus fruit in this section the wise operator plows as close to the trees as possible without injury to the limbs. It also is plowed as lightly as possible to turn the cover-crop. In early spring the cover-crop is cut with a harrow and harrowed until May. A good cover crop is velvet beans, according to experienced citrus fruit culturists. The trees are hoed until the growing season is passed.

The worst enemy to citrus in this section is the white fly while the citrus scab causes some injury. These are combatted by the use of standard insecticides and fungicides and by protecting the natural enemies of the pests. Bordeaux mixture is used as a spray for citrus scab just before growth begins in spring, and this is followed up at intervals of ten days with lime-sulphur spray. A commercial fly destroyer is used for this pest.

When writing advertisers please mention The Citrus Industry.

"One woman reported $15.60 worth of Easter lilies sold off a circular bed four feet in diameter," says a report by Mrs. Mary S. Allen, home demonstration agent in Hillsborough County.

It is now the open season for killing cotton stalks, and thereby helping to kill next year's boll weevils and anthracnose.

CITRUS AND OTHER CROPS IN LEE COUNTY

Continued from page 30

cultural section. The soil and climate are suitable for certain specialized crops that can be grown to better advantage here than in many other sections. The rapid growth and development that is now taking place in Ft. Myers and other sections of the county and the building of good roads into and thru the county should insure an equally rapid extension and development of our agriculture.

CLASSIFIED ADVERTISEMENTS

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we connot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

REAL ESTATE

WILL EXCHANGE West Texas cattle ranch for unimproved or improved land in Florida. What have you? Give price and full particulars. T. E. Bartlett, 3410 McKinley Ave., ElPaso, Texas.

EARLY BEARING Papershell Pecan trees, budded or grafted and guaranteed. Great shortage this year. Write for catalog today. Bass Pecan Company, Lumberton, Miss

FOR SALE—Cleopatra Mandarine seedlings. September delivery, enter order now. Cavendish banana plants and avocado trees. Write for price list. R. E. Skinner, Hillsboro Hotel, Tampa, Florida. May-4t.

BANANA PLANTS for sale. Improved Cavendish, Hart, Orinoco, Ladyfinger. Information free. W. E. Bolles, Oldsmar, Fla. tf

"BOOK OF TRUTH"
For planters of new groves
is yours for the asking,
Write Today.
OCKLAWAHA NURSERIES INC.
"Pedigreed Citrus Trees"
Lake Jem, Florida

FOR SALE CHEAP—Eleven acres high, rooly citrus land; 4 acres cleared with small house, and large nice bearing orange trees full of fruit. Nicely located near Altamonte Springs, Fla. For particulars write H. A. Lunquire, 41 N. W. 29th St., Miami, Fla.

POLK LAKE NURSERIES
Offer to the grower young trees of standard variety, backed by 30 years of nursery experience and a guarantee which only honest dealing can justify. For full information address A. H. Sloan, Box 413, Bartow, Fla.

WANT TO SELL HALF INTEREST IN FIFTEEN ACRE SATSUMA BEARING GROVE ON HIGHWAY NEAR PANAMA CITY. ROBT. LAMBERT, OWNER. FOUNTAIN, FLA.

For Sale--Pineapple land in winterless Florida. $15 an acre. Almont Ake. Venus Fla:

QUALITY FRUIT comes from Cleopatra mandarin stocks; ask the introducers for prices of all Citrus trees, on this and on other stocks. (42nd year in Citrus nursery, and first growers of Rough Lemon stock) ROYAL PALM NURSERIES, ONECO, FLA.

MISCELLANEOUS

FOR SALE—Dairy and stable manure, car lots. Link & Bagley, Box 464, Tampa, Florida. 6t

WHITE WYANDOTT Cockrels, regal strain—the best in the country, direct from Martin pens. Utility and show birds $5.00 each; also eggs for hatching $5.00 per 15. W. A. King, Gen. Del., St. Petersburg, Florida.

REPOSSESSED player piano may be purchased for small unpaid balance by reliable parties on easy payments. We guarantee this player to be in excellent condition and a very unusual buy. Plenty of good rolls and bench included. M. L. Price Music Co., Tampa & Zack St., Tampa.

SOUTHDOWN SHEEP, White Rocks, Toulouse Geese, Guineas, Angora and Milk Goats, Circular free. Woodburn, Clifton, Va.

AGENTS—Quality Shoes, quick sellers. Big commissions, immediate returns! Repeat orders. Experience unnecessary. Write full particulars. Tanners Shoe, 2011 C St. Boston.

FOR SALE
Remington Portable Typewriter with standard keyboard. Has all advantages of larger machine. Ideal for farm and home use. $60. cash or sold on easy terms. Remington Typewriter Co., 103 Parker St., Tampa Florida.

FARM—GROVE—HOME
22 acres large bearing grove; modern two-story, 8 room house, completely furnished on third largest lake in state in thriving town; good roads, church, school; complete line farm implements and tools. P. F. Cloonan, Yalaha, Lake County, Florida.

HIGH BLOOD PRESSURE easily, inexpensively overcome, without drugs. Send address. Dr. J. B. Stokes, Mohawk, Florida.

Laredo soy beans, considered free from nematode, excellent for hay and soil improvement. Write the Baldwin County Seed Growers Association, Loxley, Alabama, for prices.

FOR SALE: Rebuilt Band Instruments from $5.00 up. Terms if desired. M. L. Price Music Co. State Distributors—C. G. Conn Band Instruments. Tampa.

Wanted AT ONCE few dozen fresh bittersour Marmalade Oranges. Price C. O. D.? M L. Manning, 15 West Chase St. Baltimore, Md.

WANTED to correspond with growers of the Red Guava. Business. M. L. Manning, Qt West Chase Street, Baltimore, Md.

MILLION Porto Rico Potato Plants, $2.50-1000. W. W. WILLIAMS, QUITMAN, GA.

"A GOOD HAND LENS is necessary to produce good fruit. R. E. Lenfest, Winter Park carries a stock of the best and most practical for the convenience of growers. A good Lens saves spraying money. Write for prices."

WANTED—Salesman 30-40 years old. Must be familiar with Florida Citrus insect control. Position involves field work. Box 1254 Citrus Industry.

FARMER AGENTS.—Make $25.00 weekly selling Comet Sprayers. Profitable winter employment. You take orders, we deliver and collect. Commissions weekly. Established 35 years. Particulars Free. RUSLER CO., Box C18 Johnstown, Ohio.